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# THE COLONIAL CITIZEN OF NEW YORK CITY

A COMPARATIVE STUDY OF CERTAIN ASPECTS OF CITIZEN-  
SHIP PRACTICE IN FOURTEENTH CENTURY ENGLAND  
AND COLONIAL NEW YORK CITY

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## THE COLONIAL CITIZEN OF NEW YORK CITY

Perhaps the most fundamental institution in the Royal Colony of New York was the citizen himself. Indeed, the importance of the freedom, i. e., the status of citizen, must not be underestimated, if an adequate appreciation is to be gained of industrial and social conditions during the colonial period. The citizen—or freeman, as he was designated throughout the colonial period—considered his citizenship a more highly prized right than does the average citizen of the present day. And there were reasons why he should so regard it; the title freeman was not an empty one. Not only did it possess for him a profound political significance, but it was the condition of his economic independence. Unless one were a freeman he did not possess the right of suffrage, nor was he eligible to election to public office. Furthermore, non-freemen were not permitted to practice trades or carry on any business whatsoever.

As in the case of other colonial institutions, this one can be best understood with reference to its historical antecedents. An examination of the sources reveals the fact that the status and privileges of the New York citizen were established and defined by legislation and practice of an early date. The freeman of colonial New York can be described and oriented only in terms of his medieval English ancestry. Early London citizenship practice is more completely revealed in the records of the fourteenth and fifteenth centuries than in those of later date. The practices that had grown up before the fourteenth century were summed up, reviewed, and re-defined in the city records of the fourteenth and fifteenth centuries, and were then given a more or less permanent codification. Later records mention the practice in a rather matter-of-fact manner, and do not, at regular intervals, completely

overhaul it for the purpose of giving instruction in processes that had become routine. Later detailed restatements in the form of Statutes of the Realm, or Common Council Ordinances, were unnecessary. We shall find that the essential characteristics of this medieval freemanship, or citizenship, were reproduced in New York at the beginning of the English occupation, and were continued with slight modification down to the nineteenth century.

In medieval England the rights of citizenship might be acquired in one of three ways. A thirteenth century record contains the following definite statement of the practice: *Sed sciendum est quod tribus modis adquiritur homini libertas civitatis*:—*Primo quod sit homo natus in civitate legitime ex patre*; *secundo quod homo sit apprenticius cum libero homine per septem annos et non minus*, *tertio quod homo mutuat suam libertatem coram majore aliis aldermanis cum camerario civitatis*.<sup>1</sup> All three methods—birth, apprenticeship, and redemption (i. e., purchase)—constituted the practice for several centuries.

These three methods of acquiring the franchise also obtained in the City of New York. The practice was continued without definite legislation to that effect. Occasionally, however, city ordinances refer, in this connection, to "the Usage & Practice of Corporations in England", but there is no source similar to the *Chronicle of Edward I and Edward II* to which we may turn for a definitive statement. It will be necessary, therefore, to build up the practice in colonial New York from records more or less fragmentary in character.

It may be assumed that those who claimed the franchise by birth were the sons of well-to-do freemen. All youth not of "independent living" were either apprentices engaged in mastering trades, or bondsmen, i. e., serfs or slaves. Undoubtedly those who acquired the rights of citizenship by birth enjoyed a higher social status than did those who obtained the franchise by apprenticeship or redemption. The

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<sup>1</sup> *Chronicle of Edward I and Edward II*, Vol. I: 85.



London records indicate that many of these "freemen by birth" did not consider it necessary to go through the legal routine of appearing before the mayor and aldermen, and "taking up" the freedom. They seem also to have considered themselves privileged to enjoy liberties prohibited by city ordinances. This tendency to ignore the statutes increased to such an extent by the middle of the fourteenth century that the city was forced to enact corrective legislation. In 1368 it was decreed that "those who obtain the franchise by birth ought not to pay fine or other service according to ancient custom, except that when they become of full age they ought to take the same oath as other freemen, for *many of them think they are not bound to maintain the franchises because they have not been sworn.*"<sup>2</sup> This statute was re-enforced in 1387 by the following ordinance:

Also it was unanimously agreed and ordained that those claiming the freedom of the City by birth, within the year next ensuing, or within the first year after they come of age, if they be at large within the realm, and are not already sworn to the City, shall inform the Chamberlain for the time being of their birth, and, further, make the same oath as other freemen are wont to make, to the end that no one be admitted to judicial office in the City in future, wheresoever he may have been born whose father was a bondsman as aforesaid; and after the term now prescribed those claiming the freedom by birth shall not enjoy the freedom of the City until they shall have made the oath as aforesaid before the Chamberlain and it be enrolled; so that whensoever they shall be received to do the same, and when they shall have shown that they ought to be freemen of the City by birth as aforesaid, they shall be accepted as freemen of the City, and for such acceptance and entrance they shall pay nothing.<sup>3</sup>

In London, the citizen by birth enjoyed exemption from the payment of a registration fee, upon taking up the freedom. The city ordinances of 1368 and 1387 are very clear on this point, that "when they shall have shown that they ought to be freemen of the City by birth . . . they shall

<sup>2</sup> *Cal. Let. Bk.* G: 179.

<sup>3</sup> *Ibid.*, H: 310.

be accepted as freemen of the City, and for such acceptance and entrance they shall pay nothing." In the City of New York this class of citizens was required to pay an enrollment fee. The earliest records—minutes of common councils of 1676, 1683, 1684, 1686, 1691, 1702, 1707, 1719—that contain references to the fees that freemen by birth might have paid, mention only the "customary fees on being made free."<sup>4</sup> More definite information is given in the action of a common council of Sept. 1, 1726, which decreed "that the Town Clerk have for his fee for Registering each Freeman sworn or made One Shilling and Six Pence."<sup>5</sup> A common council order of Nov. 9, 1763, throws additional light upon the "customary" fees: "every Person hereafter to be made Free of this City, that was born or served an Apprenticeship within the same, shall pay for being sworn a Freeman and registred, the sum of One Shilling and Six Pence to the Clerk, and Nine Pence to the Cryer and Bell-ringer of the Mayor's Court."<sup>6</sup> Ten years later, Dec. 2, 1773, the clerk's and crier's fees were increased to 7s. 6d., and 1d. respectively, and the mayor was given a fee of 6 shillings.<sup>7</sup> Two additional laws "Relative to the Admission of Freemen" must be mentioned to show the continuation of this practice in the state period: the mayor's fee was increased to 8 shillings on March 9, 1784,<sup>8</sup> and on March 29, 1786, a fee of 6 shillings was allowed the recorder.<sup>9</sup>

To become a citizen of London through apprenticeship, it was required that the apprentice be twenty-one years of age, and that he have served a successful apprenticeship of at least seven years to some freeman master craftsman or merchant. The seven-year period was required by London legislation as

<sup>4</sup> *Minutes of the Common Council of the City of New York*, I:10 (April 15, 1676); *ibid.*, 103 (Nov. 9, 1683); *ibid.*, 137 (Mar. 15, 1684); *ibid.*, 303 (Apr. 20, 1686); *ibid.*, 178 (Apr. 24, 1686); *ibid.*, 222 (Apr. 24, 1691); *ibid.*, 248 (Oct. 15, 1691); *ibid.*, II:198 (July 11, 1702); *N. Y. Hist. Soc. Coll.* 1885, p. 460 (Mar. 28, 1707); *ibid.*, 467 (1719).

<sup>5</sup> *Minutes Com. Coun. City of N. Y.*, III:392.

<sup>6</sup> *N. Y. Hist. Soc. Collections* 1885, p. 532.

<sup>7</sup> *Ibid.*, 556.

<sup>8</sup> *Ibid.*, 239-40.

<sup>9</sup> *Ibid.*, 274-5.

early as 1279.<sup>10</sup> In this prescription municipal ordinances were re-enforced by gild regulations. Craft ordinances, when they touched upon the proper term of apprenticeship, usually insisted upon its lasting at least seven years. The rules of nearly all the crafts conformed to a common type which may be represented by the Weavers' Ordinances of 1300: "No weaver shall receive an apprentice for less than a term of seven years."<sup>11</sup> The Hatters in 1347,<sup>12</sup> the Braelers in 1355,<sup>13</sup> and the Masons<sup>14</sup> in the following year passed by-laws enforcing a minimum term of seven years "according to the usages of the City." Outside London this requirement appears as early as 1307, in the ordinances of the York Girdlers,<sup>15</sup> and as early as 1421 in the Coventry Barbers' Composition.<sup>16</sup> Again, we find the City of Worcester, in 1467, demanding a "fulle vii yere of prentishode."<sup>17</sup> All of these gild rules received the sanction of the city authorities, and so became part of the common laws of the country.<sup>18</sup>

<sup>10</sup> Liber Albus, p. 383: "ne nulle a meindre term qe vii ans."

*Cal. Let. Bk. D*, pp. 96-179, containing entries for the years 1309-1313, records the apprenticeships of 415 boys to at least 50 different trades. 138 boys acknowledged themselves apprenticed for seven-year terms, one-third of the number recorded. The expression "full term" appears 101 times. It is safe to say that the majority of these "full terms" were for seven years at least. 153 acknowledged themselves apprenticed for terms longer than seven years.

A letter dated Aug. 18, 1354, contains the following excerpt which represents the type of record that appears frequently: "bound apprentice according to the custom of the City of London, for a term of seven years." (*Calendar of Letters*, p. 65.)

<sup>11</sup> *Liber Custumarum*, p. 124: "Et qe nul teler aprentiz ne receyve a meyns qe a terme de vii aunz."

<sup>12</sup> *Memorials*, p. 238.

<sup>13</sup> *Ibid.*, 278.

<sup>14</sup> *Ibid.*, 282; 439. Ordinances of London Cutlers, 1379; 354. London Haberdashers, 1371.

<sup>15</sup> *York Memorandum Book*, I: 181: "That na maister fra this tyme forth tak nane apprentice for less terme than vii yere."

<sup>16</sup> *Coventry Leet Book*, p. 225.

<sup>17</sup> *Ordinances of English Gilds* (Smith), p. 390.

<sup>18</sup> *Liber Albus*, p. 157: "Item, modus et formae antiqui de apprenticiis observentur." *Ibid.*, 272.

*Memorials*, p. 241. London Pewterers, 1348: "No one shall receive an apprentice against the usages of the City." *Ibid.*, 282.

*Coventry Leet Book*, pp. 29, 419, 645. Coventry, in city ordinances of 1421, 1475, 1515, insisted that no crafts make laws except with the consent of the mayor.

Upon completing his term of service the apprentice appeared before the municipal officials and sought admission to his craft and to the franchise of the city. First, he must prove that he was the son of a freeman; and this requirement was re-enforced by the oath which every freeman took to "take no apprentice unless he be a free man and not a bondsman."<sup>19</sup> The "Book" or "paper of apprentices" was then consulted to ascertain whether he had been properly enrolled in the first year of his apprenticeship.<sup>20</sup> Apprentices were obliged by municipal legislation to enrol within the first year of their terms. This regulation appeared very early in the history of English apprenticeship,<sup>21</sup> and was the authority for a long established practice. The guilds repeated it in their own ordinances.<sup>22</sup> Enrolment was a public matter; the apprentice appeared,<sup>23</sup> or was brought,<sup>24</sup> before the master of the craft and also before the mayor or aldermen, or city chamberlain, and acknowledged himself indentured to a certain master craftsman. This acknowledgment, and the terms of

<sup>19</sup> *Cal. Let.*, Bk. D: 195-6. Oath of Freemen.

<sup>20</sup> *Cal. Let.*, Bk. D, 96-179. Apparently each ward in the City of London kept a "Book" or "paper of apprentices." The reference appears 114 times for 23 wards, during the years 1275-1312.

<sup>21</sup> As early as 1275.

<sup>22</sup> *Liber Custumarum*, p. 81. Articles of the Saddlers and Joiners of London, 1308: "et qil le face enrrouler en la Chaumbre de la Gihale, dedenz le primer an, sur la peyne qe appent."

*Memorials*, 258. Ordinances of London Furbishers, 1350.

<sup>23</sup> *Cal. Let.*, Bk. D: 97. "Sept. 29, 1309: The same day John Whitlock . . . came before the Chamberlain and acknowledged himself apprentice of Geoffrey de Sterteford, glover, for a term of seven years."

*Ibid.*, 122. "July 11, 1310: The same day Richard . . . came before the Aldermen and Chamberlain, and acknowledged himself apprentice to John de Porkle."

*Ibid.*, 144. "May 12, 1311: Godfrey . . . came before the aforesaid Mayor and Aldermen."

<sup>24</sup> *Ibid.*, D: 66. "Mar. 16, 1310: Richard le Keu, Chaloner, made fine of half a mark that he had with him apprentices and did not cause them to be enrolled according to the custom of the city, and he was commanded to bring those apprentices for enrollment under penalty prescribed."

Ordinances of English Guilds (Smith), p. 316. Tailors' ordinances of 1466. "Also hit is ordeyned by the M. and Wardons and all the hole crafte, that euery persone of the sayd crafte that taketh aprentys, shall brynge hym before the M. and Wardons, and there to haue his Indenture in-rolled."

the indenture or contract between the master and apprentice were then enrolled and became a public record. If this record were satisfactory, when the apprentice became an applicant for citizenship, and if "good men of the Ward testified that the said apprentice had faithfully served the said master as apprentice," and was "a good and trusty man and fit to carry on the said trade,"<sup>25</sup> the apprentice paid the exit-fee and became a full fledged master craftsman and a citizen at the same time. A city enactment of 1368 decreed that "they (apprentices) should not be received (into the franchise) except with the testimony of their masters that they had faithfully served in their misteries seven years at least."<sup>26</sup> Furthermore, in the Oath of Freemen every citizen was obliged to swear that "Ye shall take no apprentice for less than seven years, and ye shall cause him to be enrolled as such within the first year of your covenant, and at the end of his term if he has well and loyally served you, ye shall cause his egress to be enrolled."<sup>27</sup>

The exit-fee, mentioned in the preceding paragraph, signalled the youth's exit from the status of apprentice, and his entrance into the city freedom. Apprentices, upon becoming citizens, were required to pay the city chamberlain an enrolment fee. During the years 1309-1313 the most common fee was 2s. 6d.<sup>28</sup> In the next century the London Common Council decreed that "in order to relieve the increasing debts of the Chamber, the fees for the enrolment of apprentices should for the next four years be doubled; viz., for entrances 5s., and the *exits of the same* 7s."<sup>29</sup> During the six-

<sup>25</sup> *Cal. Let.*, Bk. D: 106, 122, 149, 150, 152, 154, 157, 161, 170, 178.

<sup>26</sup> *Ibid.*, G: 179.

<sup>27</sup> *Ibid.*, D: 195-6.

The keeping of a paper or roll of apprentices and others admitted to the freedom of the City in the Chamber of the Guildhall appears to have been begun in 1275, for in that year it is recorded as follows: "Eodem anno quaedam libertas in Londoniis fuit provisa, ut apprenticiorum nomina abbreviarentur in papirio camerae Gildaulae et eorum nomina qui libertatem dictae civitatis emere voluerunt in eodem papirio insererentur; et cujus nomen non fuit in dicto papirio libertate civitatis privaretur." (*Chronicle of Edward I and Edward II*, Vol. I: 85-86.)

<sup>28</sup> *Cal. Let.*, Bk. D: 96-179.

<sup>29</sup> *Ibid.*, K: 292. Act of March 2, 1443.

teenth and seventeenth centuries there was no uniformity of practice in this matter: the amounts varied from 4d. to £2.<sup>30</sup> If the apprentice did not take up the freedom immediately after the expiration of his term of service an extra fee was demanded of him.<sup>31</sup>

The essential characteristics of the early English practice of admission into the franchise through apprenticeship were reproduced in the City of New York. When a master took an apprentice he was required by law to enter into an agreement or contract with the apprentice containing the promises or covenants that should govern their relationship to each other. Then he must appear before the town authorities, and register the contract or indenture. The terms of the indenture were copied in a book kept for this purpose, and so became a public record.<sup>32</sup> As we have seen, public enrolment of apprentices was insisted upon at a very early date in England. It was also the custom in the New England colonies.<sup>33</sup> Although the laws of the mother country obtained without separate re-enactment in the Province of New York, from the date of occupation, the Common Council of the City of New York evidently found it necessary to remind the inhabitants of this requirement. It is probable that cases of neglect had occurred. At any rate, the following law was enacted:

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<sup>30</sup> *Beverley Town Documents*, pp. 103, 116; *Manuscripts of Beverley*, pp. 97, 100; *Coventry Leet Book*, pp. 641, 645.

<sup>31</sup> *Cal. Let.*, Bk. D: 40. 1309: "5s. to the Commonalty because not enrolled on quitting his apprenticeship."

*Ibid.*, D: 54. 1310: "and because he did not make his exit immediately after his apprenticeship, he gives to the Commonalty half a mark."

See also *Ibid.*, D: 36, 37, 42, 43, 44, 45, 47, 56, 58, 65, 71.

<sup>32</sup> Earliest extant book is entitled "Citty of N. Yorke Indentures of Apprenticeship begun February 19, 1694 and ends Jan. ye 29th 1707." This is a manuscript folio volume preserved at the City Hall of New York City.

Another book of this character is entitled "Indentures Oct. 2, 1718 to Aug. 7, 1727."

A common council act of Oct. 27, 1727 "Ordered the Mayor Issue his Warrant to the Treasurer to pay unto William Sharpes Town Clerk of this City . . . the sum of . . . for A Book for Recording Indentures of Apprenticeship." (*Minutes* Com. Coun. City of N. Y., III: 423.)

<sup>33</sup> Seybolt, R. F., *Apprenticeship and Apprenticeship Education in Colonial New England and New York*, chaps. ii, iii, iv.



Att a Common Council held at the Citty Hall of the said Citty on Wensday the 16th day of January Anno Dom 1694.

Ordered that Noe Merchant handy Craft Tradesman Shall take Any Prentice to teach or instruct them in their Trade or Calling without being bound by Indentures before the Mayor Recorder or Any one of ye Aldermen of said Citty, and Registered in the Town Clerkes Office.<sup>34</sup>

Every freeman, in the "Oath of a Freeman of the City of New York," was required to take the following oath: "Ye shall Swear, That . . . Ye shall take no Apprentice, but if he be free-born (that is to say) no Bond-man's Son, nor the Son of an Alien . . . and *within the first year ye shall cause him to be enrolled*, or else pay such fine as shall be reasonably imposed upon you for omitting the same."<sup>35</sup>

It will be noted that the order of 1694 did not mention a fine as the penalty for non-compliance with the registration requirement. This was remedied, however, in the Oath of March 28, 1707. Complaints of violations were heard before the Mayor's Court, which imposed the prescribed fine, or freed the apprentice concerned. A case in which the latter penalty was imposed came before "a Court of Record held at the City Hall of the said City on Tuesday the first day of June Anno Dom 1725," which decreed that "John Aspinwall Apprentice to Jde Meyer Shoemaker is discharged from his Apprenticeship his Indentures not being Acknowledged, made or Registered According to the Laws of this Corporation."<sup>36</sup>

<sup>34</sup> *Minutes Com. Coun. City of N. Y.*, I: 373-4.

This requirement was repeated by the following common councils: Nov. 19, 1695 (*ibid.*, I: 388); Dec. 10, 1695 (*ibid.*, I: 393); Nov. 23, 1697 (*ibid.*, II: 22); Dec. 23, 1701 (*ibid.*, II: 184); Feb. 15, 1702 (*ibid.*, II: 223); Dec. 21, 1706 (*ibid.*, II: 314); Mar. 7, 1711 (*ibid.*, III: 3); Mar. 28, 1707 (*Ordinances of the City of N. Y.*, 1707, 11); May 28, 1712 (*Minutes Com. Coun. City of N. Y.*, III, 3).

<sup>35</sup> N. Y. Hist. Soc. *Collection* 1885, pp. 460-1. Oath of March 28, 1707.

<sup>36</sup> *Minutes of Mayor's Court*, Jan. 26, 1724 to June 1729. (Manuscript folio volume, in N. Y. Hall of Records. Pages not numbered. Items entered chronologically.)

A Court of Record of July 17, 1719, "Ordered that Joseph Prosser Son of Joseph Prosser deceased apprentice to John Johnson late of this City Perukemaker be Discharged from his Apprenticeship the indentures not being Register'd according to Law." (*Mayor's Court Minutes*, May 1718 to June 1720, 209. MS folio in N. Y. Hall of Records.)

The usual term of apprenticeship, according to English legislation was seven years, and it must not be completed until the apprentice was twenty-one years of age. In the Province of New York, however, the common council act of January 16, 1694, permitted four-year terms: "Noe Merchant handy Craft Tradesman Shall take Any Prentice . . . for a less Term than four Years." This was re-emphasized by the Oath of March 28, 1707, which contained a clause to the effect that apprentices must be taken "for no less term than for four years."<sup>37</sup> This action was, in effect, an annulment of the law of the mother country. Such a law also operated in contravention to the primary purpose of the apprenticeship system, the production of skilled craftsmen. But early in the next century it was recognised by the city authorities that the four-year term was inadequate; the average apprentice could not successfully learn a trade in so short a period. "Att a Common Council held at the City Hall of the Said City on Tuesday the 30th day of October, Anno Dom, 1711," the earlier law was repealed, and the time-honored seven-year term insisted upon. The act follows:

Forasmuch as Great Inconveniencys have Arisen by Apprentices serving but four years by Reason whereof they are seldom Masters of their Trades for remedy whereof be it Ordained by the Mayor Recorder Aldermen and assistants of the City of New York convened in Common Council and it is hereby Ordained by the Authorities of the same that from henceforth no Merchant Shop-keeper or Handy Craft Tradesman Shall take any Apprentice to teach or instruct in their trade or Calling without being bound by an Indenture before the Mayor Recorder or any one of the Aldermen of the said City and Registered in the Town Clerks Office and not for a less Term than seven years; and at the Expiration of the said Indenture the said Apprentice shall be made free of the said City by the Master if he have well and truely served him, and the Clerk Shall have for Registering each Indenture of Apprentice the Sum of three Shillings to be paid by the Master of such Apprentice bound as aforesaid and that all Indentures of Apprenticeship hereafter to be made within this City Contrary to the true Intent and Meaning hereof shall be void and of None

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<sup>37</sup> N. Y. Hist. Soc. *Collection* 1885, pp. 460-1.

Effect; any former Law of this Corporation to the Contrary hereof in anywise Notwithstanding.<sup>38</sup>

Furthermore, all freemen were required, in the amended "Oath of a Freeman" of Oct. 30, 1711, to swear that "Ye shall take no apprentice for a less Term than for seven years."<sup>39</sup> Not only were the four-year apprentices "seldom Masters of their Trades" but, in the phraseology of a similar Boston act of 1660, they were unable "att the expiration of their Apprenticeship to take charge of others for government and manuall instruction in their occupation which, if not timely amended, threatens the welfare of this Town."<sup>40</sup> After 1711 there were but few violations of the seven-year requirement: 180 out of 220 indentures of apprenticeship, dating from 1666 to 1817, show compliance with custom in this matter. Common council acts of 1763, 1773, 1784, 1786, 1797, 1801 and 1815, "to regulate the admission of freemen in the City of New York" mention "a regular apprenticeship of seven years" as the prerequisite to becoming a citizen through apprenticeship.<sup>41</sup>

At the expiration of his term the apprentice was "made free of the said City," and was permitted to follow his trade or calling as a master "Merchant Trader or Shop-Keeper," or "Handy-craft Tradesman." As in medieval England, the authorities insisted that "he have well and truly served" his master, or, in other words, that he have served a successful apprenticeship. The practice of the mother country will be recalled also by the requirement that apprentices become citizens within a short time after completing the period of service. In the common council act of January 16, 1694, it was ordered that "att the Expiration of the Indentures the said Apprentice Shall be made Free of the Said City by his

<sup>38</sup> *Minutes Com. Coun. City of N. Y.*, II: 454-5. Repeated Dec. 1, 1719 (*ibid.*, II: 467); Sept. 1, 1726 (*ibid.*, II: 475).

<sup>39</sup> *Ibid.*, II: 454-5. Repeated in Oath of Sept. 1, 1726 (*ibid.*, III: 392).

<sup>40</sup> *Boston Town Records*, II: 157.

<sup>41</sup> *N. Y. Hist. Soc. Collection* 1885, p. 532 (Nov. 9, 1763); *ibid.*, 556 (Dec. 2, 1773); *ibid.*, 239 (Mar. 9, 1784); *ibid.*, 274-5 (Mar. 29, 1786); *ibid.*, 294-5 (May 1, 1797); *ibid.*, 298-9 (Apr. 27, 1801); *ibid.*, 399 (Mar. 8, 1815).

Said Master if he have well and truly Served him."<sup>42</sup> This requirement was repeated by common councils of 1695, 1697, 1701, 1702, 1706, 1707, 1711 and 1712,<sup>43</sup> and was re-enforced by the Oath of a Freeman in which every citizen promised that "after his (the apprentice's) term ends, within convenient time, being required, ye shall make him free of this City, if he have well and truly served you."<sup>44</sup>

Those who became citizens through apprenticeship paid the registration fees that were required of freemen by birth. In this matter, the City of New York did not distinguish, as medieval London did, between the two classes of citizens. The fee varied from 1s. 6d. to the clerk, in 1726, to "the sum of Eight Shillings to the Mayor, Six Shillings to the Recorder, Seven Shillings and Six Pence to the Clerk, and One Shilling to the Cryer and Bellringer of the Mayor's Court", in 1786.

Those who obtained the freedom by redemption, or purchase, were, for the most part, foreigners or strangers who had moved into London from places outside the city. The medieval Londoner looked with suspicion upon the foreigner, and the native craftsman forced the city to protect him from competition with strangers. Although many restrictions were imposed upon them, they were not designed to prevent respectable aliens from becoming citizens. As early as 1312 the City of London ordained "that thenceforth no stranger be admitted to the freedom of the City except with the assent of the Commonalty as in a common assembly or in full Husting in the presence of the Commonalty."<sup>45</sup> This requirement was repeated on June 8, 1319 and received the sanction of Edward II, and the additional condition was imposed that

<sup>42</sup> *Minutes Com. Council City of N. Y.*, I: 373-4.

<sup>43</sup> *Ibid.*, I: 388 (Nov. 19, 1695); *ibid.*, I: 393 (Dec. 10, 1695); *ibid.*, II: 22 (Nov. 23, 1697); *ibid.*, II: 184 (Dec. 23, 1701); *ibid.*, II: 223 Feb. 15, 1702); *ibid.*, II: 314 (Dec. 21, 1706); *Ordinances of the City of N. Y.*, 1707, 11 (Mar. 28, 1707); *Minutes Com. Coun. City of N. Y.*, III: 3 (Mar. 7, 1711); *ibid.*, III: 3 (May 28, 1712).

<sup>44</sup> *N. Y. Hist. Soc. Collection* 1885, pp. 460-1. Oath of March 28, 1707 Repeated in Oath of Sept. 1, 1726 *Minutes Com. Coun. City of N. Y.*, III: 392).

<sup>45</sup> *Cal. Let.*, Bk. D: 283. See *Liber Albus*, p. 366.

if the foreigner seeking admission to the franchise belonged to a craft, he must find six mainpernors or sureties of his craft to indemnify the city on his behalf.<sup>46</sup>

An examination of some 614 entries in the city records reveals the fact that the most common fee during the years 1309–1313 for admission to the franchise by purchase was one-half mark.<sup>47</sup> In 1364 this fee was increased to 60 shillings, or £3.<sup>48</sup> Within two years it proved so excessive that it “drove many to leave the city;”<sup>49</sup> and in 1381, “Whereas divers losses had occurred to the Chamber of the Guildhall and the whole Commonalty by reason of no one being admitted to the freedom of the City for less than £3, which prevented poor persons from obtaining it, and they had withdrawn to Southwerk and Westminster and without the liberty of the City, and many houses in the City on that account stood empty, and the number of the citizens had diminished—it was the same day ordained that thenceforth it should be lawful for the Chamberlain for the time being, associated with two Aldermen, to admit any fit and proper person by redemption for a sum suitable to his estate, the procedure recorded in the great charter of liberties of the City being followed as of old accustomed.”<sup>50</sup> On the whole, this statute was generally complied with, although an occasional instance may be found in which the £3 fee was paid.<sup>51</sup>

Colonial New York, in its practice of admitting to the franchise by redemption, differentiated between the “Merchant Trader or Shop-Keeper,” and the “Handicraft man.” In a

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<sup>46</sup> *Liber Albus*, p. 142. “Quod nullus alienigena in libertatem civitatis praedictae admittatur, nisi in Hustengo.”

*Liber Custumarum*, pp. 269–70. “nisi per manucaptionem sex hominum proborum et sufficientum.”

*Cal. Let.*, Bk. D: 46, 48, 49, 50, 60, 65 etc. for early 13th century instances of the practice of this legislation.

*Cal. Let.*, Bk. E: 12–13, 214; *ibid.*, G: 211; *ibid.*, H: 235, 309.

<sup>47</sup> *Cal. Let.*, Bk. D: 35–96.

<sup>48</sup> *Ibid.*, G: 180.

<sup>49</sup> *Ibid.*, G: 212.

<sup>50</sup> *Ibid.*, H: 162; *ibid.*, H: 235. City ordinance of June 20, 1384: “he shall be received in the presence of an Alderman and the Chamberlain, paying more or less according to his estate and as the six men aforesaid may testify as to his ability to pay.”

<sup>51</sup> *Ibid.*, H: 423 (1395).

"Proclamacon about freedomes of this Citty," dated June 5, 1675, the Mayor's Court ordered that "The Merchant or Shopp-keepers who deale in Considerable Estate by sea and Land are to pay Six Beavers: or the equivalent value; the Little Burger who sell by retayle or exercise their trade handycrafts & professions are to pay Two Beavers on the penalty of double ye Value for their default."<sup>52</sup> This order was repeated, with slight change of phraseology, by a common council of April 15, 1676.<sup>53</sup> Subsequent common councils of 1683, 1684 and 1691, repeat these fees, or rather their money equivalents: merchants, £3 12s. and handicraftsmen, £1 4s.<sup>54</sup> During the years 1702-1719, the fee for merchants was reduced to 20 shillings, and that for handicraftsmen to 6 shillings.<sup>55</sup> In 1731 merchants were required to pay £3, while handicraftsmen paid 20 shillings.<sup>56</sup> A further increase was ordered by a common council of 1751, and until the nineteenth century the following fees were charged for admissions: merchants, £5, and handicraftsmen, 20 shillings.<sup>57</sup> The type of the legislation under consideration is illustrated by a city ordinance of November 9, 1763, which is identical in form, except for modifications of the fee-requirements, with all New York colonial and state period enactments on this subject. The act follows:

Be it Ordained by the Mayor, Recorder, Aldermen and Assistants of the City of New York, convened in Common Council, and it is hereby Ordained by the Authority of the same. That all Persons hereafter to be made free of this Corporation (who were not born within this City, or served a regular apprenticeship of seven years within the same) shall pay for the Freedom thereof as followeth, to wit, Every Merchant, Trader, or Shop-Keeper, the Sum of Five Pounds, of current Money of this Colony, including

<sup>52</sup> Mayor's Court *Minutes*, Nov. 13, 1674 to Sept. 21, 1675 (MS. folio in N. Y. Hall of Records).

<sup>53</sup> *Minutes Com. Coun. City of N. Y.*, I: 10.

<sup>54</sup> *Ibid.*, I: 103, 137, 222, 248.

<sup>55</sup> *Ibid.*, II: 198 (July 11, 1702); N. Y. Hist. Soc. *Collection* 1885, p. 460 (Mar. 28, 1707); *ibid.*, 467 (1719).

<sup>56</sup> *Minutes Com. Coun. City of N. Y.*, IV: 96.

<sup>57</sup> *Ibid.*, V: 326; N. Y. Hist. Soc. *Collection* 1885, p. 556 (Dec. 2, 1773); *ibid.*, 239 (Mar. 9, 1784); *ibid.*, 274-5 (Mar. 29, 1786); *ibid.*, 294-5 (May 1, 1797).



the several Fees herein after mentioned; and every Handicraft Tradesman, the Sum of Twenty Shillings, of like current Money, for the use of this Corporation, with the Customary Fees on being made free, That is to say, Six Shillings to the Mayor, Six Shillings to the Recorder, Seven Shillings and Six Pence to the Clerk, One Shilling to the Cryer and Bell-ringer of the Mayor's Court; and that every Person hereafter to be made Free of this City, that was born or served an Apprenticeship within the same, shall pay for being sworn a Freeman and registered, the Sum of One Shilling and Six Pence to the Clerk, and Nine Pence to the Cryer and Bell-ringer of the Mayor's Court.<sup>58</sup>

In the nineteenth century, common councils of April 27, 1801,<sup>59</sup> and March 8, 1815,<sup>60</sup> made the following changes in the fee-requirements: "A merchant, trader or shopkeeper, the sum of twelve dollars and fifty cents, and a mechanic the sum of two dollars and fifty cents."

In addition to these fees for the freedom, which were paid to the city corporation, there were the "customary" fees to be given the city authorities who officiated in the making of freemen. As indicated in the discussion of the enrolment fees paid by those who acquired the rights of citizenship by birth and apprenticeship, the earliest laws "to regulate the admission of freemen" do not mention the amounts of these "customary" fees. In the common council act of Nov. 9, 1763, set out in the preceding paragraph, we find the earliest available complete description of the fees. Those acquiring the freedom by purchase were obliged to pay "Six Shillings to the Mayor, Six Shillings to the Recorder, Seven Shillings and Six Pence to the Clerk, One Shilling to the Cryer and Bell-ringer of the Mayor's Court." This prescription was re-enacted on December 2, 1773.<sup>61</sup> Subsequent city statutes of 1784, 1786 and 1797, reveal the fact that during the early state period the mayor enjoyed an increased fee of 8 shillings.<sup>62</sup> Common council acts of April 27, 1801, and March 8,

<sup>58</sup> N. Y. Hist. Soc. Collection 1885, p. 532.

<sup>59</sup> *Ibid.*, 298-9.

<sup>60</sup> *Ibid.*, 399.

<sup>61</sup> *Ibid.*, 556.

<sup>62</sup> *Ibid.*, 239-40, 274-5, 294-5.

1815 strike out the fees for the mayor and recorder, and insist "that every person on being admitted and made free, as aforesaid, shall pay the following fees, to wit: One dollar to the Clerk and twenty-five cents to the Crier of the Mayor's Court."<sup>63</sup>

In colonial New York a city ordinance of June 27, 1702, ordered that those who "are poor and not able to purchase Their Freedoms be made Freemen of this Citty Gratis."<sup>64</sup> This concession to "such as are not able to pay" is repeated in later statutes.<sup>65</sup> A typical instance of the practice established by this legislation is given in the following common council action of Oct. 23, 1703: "Resolved that Matthias Pooley Painter Nicholas Pooley Taylor and George Booth Joyner, being poor Tradesmen and not able to pay, be made Freemen of this Corporation Gratis."<sup>66</sup> In some cases all fees, including the "customary" fees, may have been remitted: in others, the applicants were "Admitted Freemen of this Citty paying the Fees of their Certificates only."<sup>67</sup>

Apparently, this practice has no counterpart in London in the early fourteenth century. The statutes of 1381 and 1384 modified the earlier custom of requiring certain fixed fees, and permitted the freeman by redemption to pay "a sum suitable to his estate."<sup>68</sup> In some instances fees were reduced for the poor, but were not remitted entirely.<sup>69</sup>

There were citizens of this class, however, who obtained the franchise of London without any payment at all, thanks to

<sup>63</sup> N. Y. Hist. Soc. *Collection*, 1885, 298-9, 399.

<sup>64</sup> *Minutes* Com. Coun. City of N. Y., II: 197.

<sup>65</sup> *Ibid.*, II: 198-9 (1702); N. Y. Hist. Soc. *Collection* 1885 p. 467 (1719).

<sup>66</sup> *Minutes* Com. Coun. City of N. Y., II: 243. At a Mayor's Court of Feb. 7, 1720, "Daniel Potter a Carman" was "Admitted & sworn a Freeman gratis being a Poor Man." (Mayor's Court *Minutes*, May 1720 to Aug. 1723, p. 116. MS folio in N. Y. Hall of Records).

This practice antedated the ordinance of June 27, 1702; the minutes of a common council of March 31, 1699 contain the following entry: "The Petition of Robert Cranell was read and the Courte doe Order that he be Admitted a Freeman of this Citty Gratis, he being a poor man & not able to purchase ye same." (*Minutes* Com. Coun. City of N. Y., II: 75).

<sup>67</sup> *Ibid.*, I: 395. Common council action of Jan. 23, 1696, in answer to the petition of eight applicants.

<sup>68</sup> *Cal. Let.*, Bk. H: 162, 235.

<sup>69</sup> *Ibid.*, D: 36, 60.

the influence of some high court or church dignitary. An entry of 1309 records the admission of one Robert de Mane-feld, a messenger, "into the freedom of the City of London . . . And at the instance of the lord the King he gives nothing for having the freedom."<sup>70</sup> Occasionally, those who had rendered certain services were pardoned their fees at the instance of the mayor or one of the aldermen.<sup>71</sup> In the available records of the City of New York there is but one instance of an admission of this character. On March 9, 1703, the common council "Ordered that Elias Desgrange, Peruke maker who came hither with his Excellency the Governour be made a Freeman of this Corporation Gratis."<sup>72</sup>

A description of the classes of freemen and of the methods by which the freedom was acquired in colonial New York will not be complete unless consideration is given the "charter freemen." They were defined at a common council meeting of Dec. 13, 1695, at which it was "Resolved that all the Inhabitants of this Citty their Apprentices and Children that were here att the time the Charter was granted be allowed and Deemed Freemen of this Citty they Registring their Names in the Town Clerks Office for which Each Person Soe Registred Shall pay Nine Pence."<sup>73</sup> This order was repeated on June 28, 1698, with the added provision "that None be Registered Under ye Age of twenty one Years and that the said Register be taken before the Mayor and two Aldermen who are to Sitt every Tuesday morning att ye Citty Hall from the hours of Nine to Eleaven of the Clock till the Same be perfected And that the Oath of A Freeman of this Citty be Administered to all that Come to be Registred."<sup>74</sup> These laws, entitled "Who are to be deemed Freemen," were re-

<sup>70</sup> *Cal. Let.*, Bk. D: 35. See also *ibid.*, 44, 48, 51, 52, 53, 54, 56, 57, 59, 77, 78 *etc.*

<sup>71</sup> *Ibid.*, D: 58, 75, 76, 89, 92. It is interesting to note that most of these individuals were valets, cooks *etc.* who had been successful in pleasing their masters.

<sup>72</sup> N. Y. Hist. Soc. *Collection* 1885, p. 456.

<sup>73</sup> *Minutes Com. Coun. City of N. Y.*, I: 394.

<sup>74</sup> *Ibid.*, II: 31.

enacted as late as 1719.<sup>75</sup> Of interest in connection with the enrolment fees paid by all citizens upon taking up the freedom is the information that the "freemen by Charter" paid a uniform registration fee of nine pence.

With increasing arrivals of foreigners, and strangers from other colonies, after the charter was granted, the city found it necessary frequently to check up its list of freemen. It is probable that, during the first three decades of the English occupation, some of the inhabitants, who were "freemen by Charter," assumed that the fact of their citizenship was well known, and hence that registration was unnecessary. At any rate, the common council, on Sept. 15, 1683, ordered the provost and marshal "fforthwith upon Receipt hereof to go from house to house throughout this Citty & to make a true & Pfect Catalogue or list of all ye Freemen householders & Inmates & their male children aboue ye Age of 16 years Inhabiting therein & present ye Same to ye deputy Mayor with all possible speed."<sup>76</sup> On July 25, 1687, the Constables were ordered to summon all the inhabitants of the City to appear before certain designated Aldermen "at the Citty Hall & there *Give an account of their ffreedomes* to the sd aldermen who are appointed a Committee to Judge who shall be allowed as ffreemen and who not that ye Names of such as shall be allowed May be Enrolled."<sup>77</sup> A later city ordinance, of Jan. 16, 1695, repeats the substance of earlier laws, and adds the order "that an Oath be drawn up & Administred to all

<sup>75</sup> *Minutes*, Com. Coun. City of N. Y., II: 315 (1706); N. Y. Hist. Soc. *Collection* 1885, p. 460 (1707); *Minutes* Com. Coun. City of N. Y., III: 3 (1712); N. Y. Hist. Soc. *Collection* 1885, p. 468 (1719).

<sup>76</sup> *Minutes* Com. Coun. City of N. Y. I: 98.

The Deacons may have performed occasionally a somewhat similar duty, and it is probable that the mayor and aldermen compared the lists returned by the provost marshal, constables, and deacons, and so were enabled to secure a "true & Pfect Catalogue." "The Court of Record of the Citty aforsd holden att the Citty Hall within the said Citty the 26th day of April 1681, Before Capt. Wm. Dyre Mayor . . . Ordered that ye Deacons of the Church doe make monthly Visitations or oftener as occasion throughout this City & Enquire into & make returne of Such persons as are fitt to be Admitted & Continue Inhabitants & of what Idle & Vagrant persons are & come into the sd Citty." (Mayor's Court *Minutes*, July 24, 1677 to Sept. 15, 1682. MS. folio in N. Y. Hall of Records.)

<sup>77</sup> *Minutes* Com. Coun. City of N. Y., I: 188.

Such as Shall be made Free or are Already Free According to the Usage & Practice of Corporations in England.<sup>778</sup>

In addition to appearing before the city authorities and paying the enrolment fees, all applicants for citizenship, whether by birth, apprenticeship or redemption, were required to take the oath of a freeman. This was the most important step in the process of taking up the freedom. On this occasion the new citizen received at the hands of the mayor and aldermen a lesson in civic responsibilities, and a grant of privileges. The oath was, in effect, a contract between the city and the citizen; in return for certain privileges, the freeman promised to discharge certain duties. Obviously, for the purposes of this study it will be necessary to reproduce, without abridgment typical oaths of medieval London and colonial New York. As we shall see, the oath is the most valuable of all citizenship documents because it sums up the more or less fragmentary description of the practice revealed by common council legislation and other records.

The English oath to be considered is one drawn up in the late thirteenth, or early fourteenth century. It reads:

Ye shall swear that ye shall be faithful and loyal unto our lord the King of England, and to his heirs Kings, and be obedient to the Mayor and Ministers that keep the City, and the franchises and customs of the City, ye shall Maintain according to your power, and the said City as much as in you is ye shall keep harmless, and partners shall ye be in all charges touching the City, as in summonses, contributions, watches, tallages, and other charges, like other freemen of the City. Ye shall not avow as your own the goods of foreigners, whereby the King may lose his custom. Ye shall take no apprentice for less than seven years, and ye shall cause him to be enrolled as such within the first year of your covenant, and at the end of his term, if he has well and loyally served you, ye shall cause his egress to be enrolled. And if you know of any stranger trafficking in the City, you shall warn the Chamberlain or the Serjeants of the Chamber. Ye shall not implead any man who is of the franchise of the City outside the same City, if able to obtain redress before the Ministers of the

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<sup>78</sup> *Minutes* Com. Coun. City of N. Y., I: 373. See also *ibid.*, 389 (Nov. 19, 1695); *ibid.*, 393 (Dec. 10, 1695); *ibid.*, II: 22 (Nov. 23, 1697); *ibid.*, 184 (Nov. 28, 1701); *ibid.*, 223 (Feb. 15, 1703).

City. And if ye shall know of any Assembly, congregation, or covin made contrary to the peace ye shall warn the Mayor for the time being. And ye shall take no apprentice unless he be a free man and not a bondsman. All which points aforesaid ye shall well and truly keep, so God you help and his Saints.<sup>79</sup>

The practice to which reference is made in the apprenticeship clauses has been discussed. After examining the oath of a freeman of the City of New York, we shall consider the other important responsibilities and rights.

The New York oath which we shall use for the purpose of comparison is one dated March 28, 1707. Although the city records refer frequently to oaths of earlier date,<sup>80</sup> this is the earliest to be set out completely. It follows:

Ye shall Swear, That ye shall be good & true to our Sovereign Lady Queen Anne, and to the Heirs of our said Sovereign Lady the Queen. Obeysont and Obedient shall ye be to the Mayor and Ministers of this City, the Franchises and Customs thereof. Ye shall maintain, and this City keep harmless, in that which is in you is. Ye shall be contributing to all manner of charges within this City as Summons, Watches, Contributions, Taxes, Tallages, Lot and Scott, and all other Charges, bearing your part as a Free-man ought to do. Ye shall know no Forreigner to buy or sell any Merchandise with any other Forreigners within this City or Franchise thereof, but ye shall warn the Mayor thereof, or some Minister of the Mayors. Ye shall implead or sue no Free-man out of this City, whilst ye may have Right and Law within the same. Ye shall take no Apprentice, but if he be free-born (that is to say) no Bond-man's Son, nor the Son of an Alien, and for no less term than for four years, without fraud or deceit; and within the first year ye shall cause him to be enrolled, or else pay such Fine as shall be reasonably imposed upon you for omitting the same; and after his term ends, within convenient time, being required, ye shall make him free of this City, if he have well and truly served you. Ye shall also keep the Queens Peace in your own Person. Ye shall know of no Gatherings, Conventicles

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<sup>79</sup> *Cal. Let.*, Bk. D: 195-6.

<sup>80</sup> *Minutes* Com. Coun. City of N. Y., I: 373. A common council of Jan. 16, 1695 ordered "An Oath to be drawn up and Administered to all Such as Shall be made Free or are Already Free According to the Usage and Practice of Corporations in England."

*Ibid.*, I: 394 (Dec. 12, 1695); *ibid.*, II: 31 (June 28, 1698); *ibid.*, 184 (Dec. 23, 1701); *ibid.*, 223 (Feb. 15, 1703); *ibid.*, 315 (Dec. 21, 1706).



or Conspiracies made against the Queens Peace, but you shall warn the Mayor thereof, or let it to your power. All these Points and Articles ye shall well and truly keep, according to the Laws and Customs of this City. So help you God.<sup>81</sup>

The striking similarity of the two oaths will be noted at once. It is evident that the phraseology and content of the New York oath of 1707 were borrowed from the medieval London oath. The former reproduced the significant features of its English model, and except for a few minor changes in phraseology it is a verbatim copy of the oath of the mother country. In comparing the two oaths, the New York requirement of an apprenticeship term of "no less . . . than for four years" must not be singled out for special emphasis. The difference is not important, in this connection, for it will be recalled that the traditional seven-year term was restored in the amended oath of October 30, 1711.<sup>82</sup>

In the course of a century the oath of 1707 underwent several changes. If the oath, with its statement of duties and rights, reflects, at all, contemporary freemanship practice, these modifications must be examined carefully. As indicated above, a common council ordinance of Oct. 30, 1711, changed the term of apprenticeship from four to seven years, and "Order'd the Oath of a Freeman be Alter'd Accordingly." Otherwise the content of the 1707 oath was repeated without modification.<sup>83</sup> On Oct. 27, 1725, the common council "Order'd the Words in the Freeman's Oath (Ye Shall also keep the King's Peace in your own Person) be Struck out of the said Oath."<sup>84</sup> The next oath set out in full in the city records is one of Sept. 1, 1726, and in it we find that the modifications of 1711 and 1725 have been incorporated.<sup>85</sup> Further change was made by the common council on Nov. 18, 1731, and an oath drawn up in the following simplified form:

YE SHALL SWEAR that Ye Shall be good and true to our sovereign Lord King George and to the Heirs of our said sovereign

<sup>81</sup> N. Y. Hist. Soc. *Collection* 1885, pp. 460-1.

<sup>82</sup> *Minutes Com. Coun. City of N. Y.*, II: 454-5.

<sup>83</sup> N. Y. Hist. Soc. *Collection* 1885, pp. 468-9 (Oath of 1719).

<sup>84</sup> *Minutes Com. Coun. City of N. Y.*, III: 378.

<sup>85</sup> *Ibid.*, III: 392.

Lord the King. Obeysant and Obedient shall ye be to the Mayor and Ministers of this City. The Franchises and customs thereof Ye Shall Maintain and this City keep harmless in that which in you is. Ye shall be contributing to all Manner of Charges within this City as summons Watches Contributions Taxes Tallages Lot and Scot and all Other Charges bearing your Part as A Freeman Ought to do. Ye Shall know of no gatherings Conventicles or Conspiracies made against the King's Peace but you Shall warn the Mayor thereof or lett it to your power. All these Points and Articles ye Shall well and truly keep According to the Laws and Customs of this City. So help you God.<sup>86</sup>

This was repeated verbatim on Nov. 9, 1762,<sup>87</sup> and on Dec. 2, 1773.<sup>88</sup> The first oath to appear in the state period (March 9, 1784) was still further simplified. It reads:

I-----do swear, That I, as a Freeman of the City of New York, will be obeisant and obedient to the Mayor, and other Ministers or Peace Officers of the said City; the franchises and customs thereof, I will maintain and keep the said city harmless as much as in me lieth. I will know of no unlawful gatherings, assemblies, or meetings, or of any conspiracies against the peace of the people of the state of New York, but I will warn the Mayor, or other Magistrate thereof, or hinder it to the utmost of my power. All these points and articles I will well and truly maintain and keep according to the laws and customs of the said city. So help me God.<sup>89</sup>

This abridgment was further abridged on March 29, 1786 to:

I-----do swear that I, as a Freeman of the City of New York will maintain the lawful franchises and customs thereof, and keep the same City harmless as much as in me lieth, and that I will in all things do my Duty as a good and faithful Freeman of the same City ought to do. So help me God.<sup>90</sup>

With the omission of "So help me God," the oath of 1786 was repeated by common councils of May 1, 1797,<sup>91</sup> April 27,

<sup>86</sup> *Minutes Com. Coun. City of N. Y.*, IV: 121.

<sup>87</sup> *N. Y. Hist. Soc. Collection* 1885, pp. 532-3.

<sup>88</sup> *Ibid.*, 557.

<sup>89</sup> *Ibid.*, 239-40.

<sup>90</sup> *Ibid.*, 274-5.

<sup>91</sup> *Ibid.*, 294-5.

1801,<sup>92</sup> and March 8, 1815, the last "Law to regulate the admission of Freemen in the City of New York."<sup>93</sup>

Every citizen of New York City, upon paying the required fees and taking the oath, received a certificate of freedom. The earliest certificate preserved in the city records is one dated Dec. 7, 1675; it is also a certificate of naturalization.

These are to Certify all Persons whom these presents may Concerne or Come to that the Bearer hereof David Jochams the Seauenth day of december One Thousand Six hundred Seauenty and ffiue did take the Oath of fidelity to our Soueraigne Lord the Kinge And his Royll Highness James Duke of Yorke and that thereupon hee was made a ffree Burgher of this Citty and taken to bee an English Man within this Citty and Collony and hath ye same Priuiledges and Liberties as any other of his Maties Subjects within this Citty and Coollony. Witness my hand and the Seale of ye sd Citty this Ninth day of Nouember in the Eight and twentieth Yeare of the Raigne of our most Gracous Soueraigne Lord Charles the Second Kinge of England &c Annoqe Dim 1676.<sup>94</sup>

Early in the next century this form was changed, and the following drawn up:

Isaac De Riemer Esqr Mayor and the Aldermen of the Citty of New Yorke To all to whome these presents shall Come Send Greeting Whereas Thomas Evans, Bricklayer hath made application to be made a Freeman and Cittizen of the said Citty. These are therefore to Certifie and Declare that the said Thomas Evans is hereby Admitted Received and allowed a Freeman and Cittizen of the said Citty, to have Hold Enjoy and Partake of all the Benefitts Liberties Priviledges Freedoms & Immunities Whatsoever Granted or belonging to the same. IN TESTIMONY, whereof the said Mayor hath hereunto Subscribed his Name and Caused the seale of the said Citty to be affixed the first day October, Anno. Dom. 1701. Annoq. Rog. Regs. Will tertii. Nunc. An. &c. Decimo tertio. I. D: Riemer, Mayor. Will. Sharpas Clk.<sup>95</sup>

<sup>92</sup> N. Y. Hist. Soc. *Collection*, 1885, 298-9.

<sup>93</sup> *Ibid.*, 399.

<sup>94</sup> *Minutes Com. Coun. City of N. Y.*, I: 26-7. See N. Y. Hist. Soc. *Collection* 1885, pp. 42, 43, for similar certificates of Nov. 4, 1678, Jan. 14, 1679, July 6, 1680.

<sup>95</sup> N. Y. Hist. Soc. *Collection* 1885, p. 451. See *ibid.*, 466, 500, 534, for similar certificates of 1715, 1738, 1765.

This remained the type form throughout the colonial period. The State period certificate may be represented by the following:

JAMES DUANE, Esquire, MAYOR, And the Aldermen of the City of New York. To all to whom these Presents shall come, send Greeting: KNOW YE, That Lawrence Goetz, Blacksmith, is admitted, received and allowed a Freeman and Citizen of the said City; to Have, Hold, Use and Enjoy all the Benefits, Privileges, Franchises and Immunities whatsoever, granted or belonging to the said City. IN TESTIMONY whereof, the said Mayor and Aldermen have caused the Seal of the said City to be hereunto affixed. WITNESS JAMES DUANE, Esquire, Mayor, the twenty-fifth day of May in the Year of our Lord 1784, and of the Sovereignty and Independence of the State the eighth. James Duane. Robt. Benson Clk.<sup>96</sup>

Having acquired the freedom by any one of the methods just considered, the citizen possessed all the privileges of the suffrage, and of carrying on his trade or profession. This was true in general of the fourteenth century, the period emphasized in this study for comparison with colonial New York. But early in the fifteenth century it was evident that a tendency had set in to curb the privileges of the freemen by redemption. Large numbers of foreigners were coming into the city, and were threatening to break down the exclusiveness of the freemen by birth and apprenticeship. These classes of citizens had assumed that they alone were eligible to certain civic and trade honors and favors. In 1420, the cutlers of London ruled "That no one thenceforth be elected Master or Warden unless he be a freeman of the City by birth or apprenticeship served in the said Mistery, under penalty of 100s."<sup>97</sup> The attitude of the city is illustrated by an act of 1432 which decreed "that from this day forward no man be admitted into the saide Fraunchise but he be born or made apprentice or officer with ynne the Citee."<sup>98</sup> The practice of admission to citizenship by redemption had become so lax by 1433 that an

<sup>96</sup> N. Y. Hist. Soc. Collection, 1885, 249.

<sup>97</sup> Cal. Let., Bk. I: 250.

<sup>98</sup> Ibid., K: 161.

ordinance was passed by the common council to bring it within bounds.<sup>99</sup> In the following year, the city decided to exclude freemen by redemption from enjoying membership in the common council. To that end the mayor directed "the Aldermen to cause a certain number of men, freemen of the City either by birth or by apprenticeship, and not by redemption, to be elected members of the city council."<sup>100</sup>

During the early years of the fourteenth century freemen alone possessed unlimited trade privileges. The "Assizes of the City of London," of 1277-1278, decreed "that no one shall carry on merchandize in the City . . . unless he be willing to be of the Justice of the City."<sup>101</sup> Except under certain restrictions, non-freemen were not permitted to do any business or even reside within the city. Foreigners and strangers were allowed a forty-day period in which to transact their business.<sup>102</sup> Exceptions were made, however, from time to time, in the cases of various foreign towns.<sup>103</sup> In 1335 a statute was passed to the effect that merchant strangers should be allowed to trade freely throughout the realm in spite of charters to the contrary.<sup>104</sup> Within two years the citizens of London were forced to complain of the disadvantages of carrying on their business in competition with strangers, and in 1337 they secured a charter restoring to the city all its ancient privileges.<sup>105</sup> The citizens continued to enjoy the monopoly of trade until 1351, when parliament again enacted that the statute of 1335 should be enforced. In a petition for redress, dated 1357, the freemen of London complained that foreigners were "more free than themselves."<sup>106</sup> This condition was remedied by a charter of December 4, 1377 which again confirmed to the citizens the monopoly of trade

<sup>99</sup> *Cal. Let.*, Bk. K: 164.

<sup>100</sup> *Ibid.*, K: 190.

<sup>101</sup> *Ibid.*, A: 219.

<sup>102</sup> *Ibid.*, B: 78, 80 (1298); *ibid.*, C: 76 (1300).

<sup>103</sup> *Liber Custumarum*, pp. 64-66.

*Cal. Let.*, Bk. B: 234. *Ibid.*, E: 228, 240, 248, 254, 256, 263, 265, 272. Privileges of merchants from various English towns.

<sup>104</sup> *Cal. Let.*, Bk. F: 229.

<sup>105</sup> *Ibid.*, F: 14-15.

<sup>106</sup> *Ibid.*, G: 85-86.

within the City to the exclusion of nonfreemen.<sup>107</sup> In the fifteenth century the old restrictions show a tendency to break down entirely. Many crafts complained that large numbers of strangers were working in the various trades of the city,<sup>108</sup> and some were even forced to combine on account of the activity of non-freemen.<sup>109</sup> The result was that many crafts drew up rules effecting the exclusion of strangers, and secured the city's sanction to the regulations.<sup>110</sup>

In colonial New York only "free Cittizens" were permitted to exercise the right of suffrage, or to engage in any business whatsoever. Among "ye Customes libertyes and priuiledges" "wch were Confirmed & granted" to the City of New York by "Coll Richd Nicholls late Governor of this Province by Authority undr his Royall Highnesse Anno 1665" was the following: "None were to be esteemed Freemen of the City but who were admitted by ye Magistrates aforesd & none before such admission to sell by Retayle or exercise any handycraft trade or occupation."<sup>111</sup> Early in the history of New York City, during the period when the English system of administration was in the process of establishment, cases of violation were frequent. It is probable that strangers were mingling freely with the freemen, and were attempting to engage in business without first securing legal permission. The following action of the Mayor's Court describes the situation, and orders a remedy:

Att a Court Meeting held in New Yorke the 5th June in the 27th Yeare of his Matis reigne, 1675: The Court having taken into

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<sup>107</sup> *Cal. Let.*, Bk. H: 86. See *Ibid.*, 90, 91, 94, 95, for restrictions imposed upon strangers.

<sup>108</sup> *Cal. Let.*, Bk. K: 61, 335, 341, 364. See also *Ibid.*, L: 118, 154, 295, 302.

<sup>109</sup> *Ibid.*, L: 138.

<sup>110</sup> *Ibid.*, L: 203, 210, 254, 264, 284, 291, 320.

<sup>111</sup> *Minutes Com. Coun. City of N. Y.*, I: 102-3.

"At a Court meeting held the 9th day of May, 1675 . . . These presented themselves to ye Court & requested to bee admitted into the Burgery of this City to ye end that they may follow their trade & calling, wch was granted them accordingly Provided they behave themselves Civilly, and pay such acknowledgements as hereafter shall be ordered for Strangers admtion to the freedome of this City, which they Engaged to doe when thereunto required." (Mayor's Court *Minutes*, Nov. 13, 1674 to Sept. 21, 1675)



their Consideracon the great inconveniencys of Strangers who come heere and openly sell and retayle their goods wares and Merchandizes and exercise their trades and handicraftes without taking notice of ye Corporation or, obteyning the Priviledge or freedome of this Citty, according to former Orders and Custome as well heere as in other places

Whereupon they thought fitt to order That all persons whatsoever that live in this Citty or that come from other parts to trade or Exercise their Profession ffunction or trade, and have not taken out their Burgership or freedome—Shall within Fourteen dayes after ye Publication hereof come and address themselves to ye Court, the Mayor or his Deputy who upon Civill behaviour and Paying wt is hereafter mentioned may bee admitted accordingly vizt, The Merchant or Shopkeepers who deale in Considerable Estate by sea and Land are to pay Six Beavers: or the Equivalent value; the Little Burger who sell by retayle or exercise their trade handycrafts & professions are to pay Two Beavers on the penalty of double ye Value for their default, and after their admition they are to take out a Certificate of their Priviledge from the Towne Clearke who is to deliver it with ye Seale of the Citty fixed thereunto.

Published at ye Citty hall the day and yeare above written.

By John Sharpe

Towne Clearke.<sup>112</sup>

The minutes of the common council contain many laws enacted to protect the freeman in his enjoyment of this privilege.<sup>113</sup> A re-enactment of March 15, 1684 stipulates a "Penalty of fve Pounds for Each offence," and this penalty

<sup>112</sup> Mayor's Court *Minutes*, Nov. 13, 1674 to Sept. 21, 1675.

The following excerpt from a petition of 1747 describes a similar situation: "We his and Your most constant and zealous Subjects are invaded and attacked by illegal and circumventing malpractices, against the peace and interests and priveledges of this City and its Denizens, by Sundry and numerous persons, not Freemen of this City, but Inhabitants of the Neighbouring provinces and more especially of the Jerseys, who in Several numerous Companys Several times heretofore have and still do make a practice of coming into this City after the laying of our taxes yearly there to exercise their Several handicraft trades such as Carpenters, Bricklayers &c. undermining Us the ancient Freemen of the aforesaid City." (N. Y. Hist. Soc. *Collection* 1885, p. 507.)

<sup>113</sup> *Minutes* Com. Coun. City of N. Y., I: 10 (April 15, 1676); *ibid.*, I: 103 (Nov. 9, 1683); *ibid.*, I: 222 (Apr. 24, 1691); *ibid.*, I: 248 (Oct. 15, 1691); *ibid.*, II: 198-9 (July 11, 1702); *ibid.*, IV: 96-7 (Nov. 18, 1731); N. Y. Hist. Soc. *Collection* 1885, 460 (Mar. 28, 1707); *ibid.*, 467 (1719).

was continued in all later statutes of this character.<sup>114</sup> The Dongan Charter of 1686 confirmed all privileges "anciently had, held, used or enjoyed," and in this connection it made an exception to the trade monopoly held by citizens in the case of strangers who came to the city to participate in the public fairs. This section reads as follows:

And noe Person or Persons whatsoever Other than Such free Cittizens Shall hereafter use any Art Trade Mystery or Manual occupation within the Said Citty Liberties and Precincts thereof Saveing in the times of Fairs there to be kept, And dureing ye Continuance of Such Fairs only. And in Case any Person or Persons whatsoever not being Free Cittizens of ye Said Citty as Aforesaid Shall att any time thereafter use or exercise Any Art, Trade, Mystery or Manual Occupation or Shall by himself themselves or others Sell or expose to Saile Any Manner of Merchandize or Wares whatsoever, by retaile In Any house Shop or place Standing within ye Said Citty or ye Liberties or Precincts thereof, Noe Fair being Kept then in ye Said Citty And Shall persist therein, After a Warneing to him or them Given or left by Appointment of ye Mayor of ye said Citty for ye time being att ye Place or Places where such Person or Persons Shall soe use or exercise Any Art, Trade Mystery, or Manual Occupation or shall sell or expose to sayle any Wares or Merchandizes as Aforesaid by retaile, then itt Shall be Lawfull for ye Said Mayor of the Said Citty, for the time being, to cause Such Shop Windows to be Shut upp, And Alsoe to Impose Such reasonable Fine for Such offence not exceeding five pounds.<sup>115</sup>

In the Montgomerie Charter of 1731 we find a repetition of this section of the charter granted by Governor Dongan.<sup>116</sup> Common council ordinances of the late seventeenth century indicate that the city authorities frequently took steps to find out whether any non-freemen were engaged in trade. The following act of May 9, 1691 represents the type of order to accomplish this purpose:

That All the Inhabitants of this Citty that Shall bee Warned by Mr Thomas Clarke to produce their ffreedoms to Retaile or use

<sup>114</sup> *Minutes Com. Coun. City of N. Y.*, I: 137. See sources under note 113.

<sup>115</sup> *Colonial Laws*, N. Y., I: 192-3. Repeated in Dongan Charter of the City of Albany, 1686 (*Colonial Laws*, N. Y., I: 209-10).

<sup>116</sup> *Colonial Laws*, N. Y., I: 586-7.

any handicraft trade within this Citty are hereby Required to Satisfie the Said Clarke in their freedoms or giue Satisfaction to the Mayor of the City within fourteen dayes time after Such Demand made by Mr Clarke upon forfeiture of Twenty Shillings for the Use of the Citty.<sup>117</sup>

In addition to special legislation on the subject, and confirmation by charter, the common council in 1730 ordered "That the Corporation have Power . . . to Restrain all Unfreemen from Exercising any Trade or Occupation within the same."<sup>118</sup>

Among other advantages which the freeman of the city enjoyed over the non-freeman was exemption from the jurisdiction of courts of law outside the city, except in certain specified cases. Citizens of London could not be forced to plead or be impleaded outside the city's walls. This privilege had been granted to them by Henry II. about the year 1155. In the Oath of a Freeman, set out above, every citizen was instructed not to "implead any man who is of the franchise of the City outside the same City, if able to obtain redress before the Ministers of the City." This injunction was re-enforced by city legislation of 1300, and by occasional statutes of later date.<sup>119</sup> Ordinances of 1358 and 1361 agree in "forbidding one freeman of the City to implead another Freeman outside the City for a matter done within the City, where the plaintiff can recover before the Mayor and Aldermen, on pain of losing his franchise, or of imprisonment."<sup>120</sup> The city records indicate that these laws were enforced, and that the offender was usually "condemned to lose the franchise of the City and

<sup>117</sup> *Minutes Com. Coun. City of N. Y.*, I: 228. See *ibid.*, I: 248 (Oct. 15, 1691); *ibid.*, I: 264 (Feb. 5, 1692).

In order to close every loop-hole through which non-freemen might slip into the city and illegally engage in trade, "At a Court Meeting held on Saturday ye 13 of March 1675, the Governours Order alsoe was Publisht forbidding and prohibiting all forreiners and Strangers or Others to trade within his R. H. territories without coming to this port, and there to make their due entries according to Law, under the penalties therein mentioned." (Mayor's Court *Minutes*, Nov. 13, 1674 to Sept. 21, 1675.)

<sup>118</sup> *Minutes Com. Coun. City of N. Y.*, IV: 7. See *ibid.*, IV: 30 (Aug. 3, 1730).

<sup>119</sup> *Cal. Let.*, Bk. C: 66. See *Ibid.*, K: 363.

<sup>120</sup> *Ibid.*, G: 129.

to be committed, *as a foreigner*, to the Kings prison of Newgate, and . . . the Chamberlain was instructed not to allow him to keep open shop within the liberty of the City."<sup>121</sup>

The colonial citizen of New York City enjoyed the same privilege of trial in city courts. In the oath of 1707 every freeman was enjoined to this effect, that "Ye shall implead or sue no freeman out of this City, whilst ye may have Right and Law within the same."<sup>122</sup> The minutes of the common council contain no record of legislation on this matter, but it may be assumed that this privilege was never revoked by statute. It is interesting to note, in this connection, that the Duke of York's Laws of 1665 forbade foreigners to attach "a settled Inhabitant before giving security to prosecute his action."<sup>123</sup>

The freedom of the city entailed duties and responsibilities as well as conferred privileges. One of these duties, and one strongly insisted on in the thirteenth and early fourteenth centuries, was that of residence. All freemen of London were required to live in the city, under penalty of forfeiting their citizenship.<sup>124</sup> Usually, when information came to the city authorities that a certain freeman was living outside the walls, the offender "was told to reside in the City so long as he wished to enjoy the freedom of the City."<sup>125</sup> Sometimes it was impossible to obey the order immediately, but in such cases the city allowed the freeman concerned a reasonable period of time in which "to come and reside therein with his wife and family and all his goods and chattels."<sup>126</sup> If the warning were not heeded, and the freeman continued to live outside, the rights of citizenship were taken from him. This duty appears to have given place by 1319 to what had then come to be looked upon as a still more important duty, viz.,

<sup>121</sup> *Cal. Let.*, Bk. I: 19. See *ibid.*, H: 225; *ibid.*, K: 383.

<sup>122</sup> Repeated in Oath of 1719 (N. Y. Hist. Soc. *Collection* 1885, pp. 468-9).

<sup>123</sup> *Colonial Laws*, N. Y., I: 15.

<sup>124</sup> *Cal. Let.*, Bk. C: 149. Nov. 30, 1305: "It was found upon their own acknowledgement that they . . . resided without the liberties of the City of London. It was therefore adjudged that they lose the freedom of the City."

*Ibid.*, K: 180. City statute of 1434; *ibid.*, L: 137. Statute of 1476.

<sup>125</sup> *Ibid.*, D: 75 (1311).

<sup>126</sup> *Ibid.*, D: 86 (1312). See *Ibid.*, D: 61 (1311).

that of being in Lot and Scot.<sup>127</sup> In 1365 "it was ordained by the said Mayor, Aldermen, and Sheriffs, with the assent of the Commonalty, that all those who had already been 'admitted to the freedom of the City and had not continuously resided in the City, should fully have and enjoy all their liberties, in the same degree as those who had continuously resided therein, provided they be in lot and scot and participate in the burdens arising in the City whensoever they arise.'"<sup>128</sup>

The duty of residing within the city was not reproduced in colonial New York. If a citizen remained in Scot and Lot, he might absent himself from the city 'indefinitely. In its petition of November 7, 1683 for a charter, the city asked that it be permitted to continue 'in the enjoyment of the following "priviledge" granted in 1665: "if any ffreeman should be absent out of the Citty ye space of 12 moneth & not keep ffire and Candle & pay scott & lott should loose his freedome.'"<sup>129</sup> In 1676 the city ordered that "if any Person or Persons soe made free Shall depart from this Citty by the Space of Six months Unless Such Person or Persons So departing Shall during that time keepe fire and Candle Light and pay Scot and Lot, Shall Loose his and their freedome.'"<sup>130</sup> Ordinances of 1684 and 1698, however, establish the twelve-month period as the maximum length of time for which a freeman might absent himself without losing his citizenship.<sup>131</sup> Legislation of this character was supplemented by the oath in which all citizens promised to contribute to "all manner of Charges," including "Lot and Scott."<sup>132</sup>

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<sup>127</sup> Among the articles for the better government of the City of London, approved by Edward II, in 1319, is the following: "Et quod omnes et singuli de libertate civitatis existentes et extra civitatem eandem manentes, per se vel per suos mercandisas suas infra dictam civitatem exercentes, sint in Lotto et Scotto, cum communarius ejusdem civitatis, pro mercandisis suis praedictis; vel alias a libertate sua amoveantur." (*Liber Cust.*, pp. 270-1.)

*Liber Albus*, p. 157. "Item quod cives ejusdem civitatis, nisi sint in Lotto et Scotto et participes omnium onerum pro statu civitatis, libertatem suam amittant."

<sup>128</sup> *Cal. Let. Bk. G.*: 203. See *Liber Albus*, p. 391.

<sup>129</sup> *Min. Com. Coun. City of N. Y.*, I: 103.

<sup>130</sup> *Ibid.*, I: 10.

<sup>131</sup> *Ibid.*, I: 137; *ibid.*, II: 29; *N. Y. Hist. Soc. Collection* 1885, p. 449.

<sup>132</sup> Repeated in Oaths of 1707, 1719, 1726, 1731, 1762, 1773.

This completes our brief comparison of freemanship practice in fourteenth century England and colonial New York City. Only the most significant analogous features of this practice have been considered. As we have seen, colonial New York reproduced without radical change the medieval methods of acquiring the franchise, the Oath, the privileges of suffrage, trade, and intra-urban justice, and the important duty of "being in Scot and Lot."

Let us turn from the foregoing discussion of analogies between medieval English and colonial New York citizenship, to a consideration of the disappearance of the old freeman. Early in the nineteenth century it was evident that the colonial practice was falling into disuse. In spite of the fact that as late as 1801, the state passed a law which provided that "no person shall vote as a freeman of the said City (New York City) at any of the said elections, *unless he shall have been admitted to the freedom of the said city*, at least three months, and have actually resided in the ward for which he shall so vote, at least one month before the day of the election,"<sup>133</sup> the centuries-old freeman with his "antient privileges" was already an anachronism. By this time, although the charter of the city ordained that "no person whatsoever not being a free Citizen of the Said City as aforesaid Shall at any time hereafter use any Art trade Mystery or occupation within the Said City . . . Save in the time of public fairs,"<sup>134</sup> "many wholesome inhabitants have moved into the said city, and have been permitted to carry on their arts, trades, mysteries, merchandise and occupations, and have contributed to the public expenses and performed the duties exacted of citizens, *without having been made Freemen of the said city*, whereby its population and wealth have been greatly increased, and its arts and commerce promoted."<sup>135</sup> Natur-

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<sup>133</sup> *Laws of the State of New York*, 24th Session (Albany, 1887), p. 470. "An Act relative to the election of Charter officers, and relative to weigh-masters in the city of New York," passed April 7, 1801.

<sup>134</sup> *Colonial Laws*, N. Y., I: 586-7.

<sup>135</sup> *Extract from the proceedings of the Senate on the revision of the Charter*, 1804 (N. Y. Hist. Soc. Collection 1885, p. 352).



ally, in view of the fact that the old charter still obtained, it was doubted whether such inhabitants were entitled to vote for charter officers until they had been made freemen of the city according to the particular method prescribed by the charter.<sup>126</sup> This problem was solved by a state law of 1804 which ordered the following revision of the charter:

IV. And be it further enacted, That all persons who are qualified by the Charter of the said city, to vote for Charter officers, and every male citizen of this state, or of any of the United States, of the age of twenty-one years and upwards, who shall have resided in the said city for the space of six months preceding such election, and shall during that time have rented a tenement of the yearly value of twenty-five dollars, and have paid any taxes within the said city, and is not disqualified by law, shall vote at such election for charter officers, and shall be entitled to all the rights and privileges of a freeman of the said city: Provided always

V. And it is hereby further enacted, That no person shall vote at any such election except in the ward in which he shall actually reside.<sup>127</sup>

Although the old voting qualifications of the citizen no longer obtained, the practice of admitting freemen "According to the Usage & Practice of Corporations in England" did not cease immediately. The common council minutes for the years 1807, 1808, 1809 and 1811 contain occasional records of those who "appeared before the Mayor and Alder-

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<sup>126</sup> The common council minutes of the last decade of the eighteenth century record several instances in which non-freemen were elected to the offices of constable, assessor, alderman, and assistant. In each case, after it was "suggested" that the officer-elect was "not qualified agreeable to the Charter of this City to serve in the said office," or "was not a free Man of this City, and . . . a freeholder in the Ward," "his Election was declared by the Board to be void." (See actions of Oct. 4, 1791, Oct. 12, 1791, Oct. 3, 1796, Oct. 14, 1797, Oct. 14, 1799, in *Minutes Common Coun. City of N. Y., 1784-1831*, I: 674, 677; *ibid.*, II: 290, 396-7, 576. These minutes are in process of publication by the City of New York. Through the kindness of Dr. Williamson, director of the Municipal Reference Library, I was permitted to examine the page-proof.)

<sup>127</sup> *Laws of the State of New York*, from 1801 to 1804 (Albany, 1804), pp. 427-8. "An Act relative to the election of Charter Officers in the City of New York," passed April 5, 1804. This law repealed the act of April 7, 1801.

men," and "were respectively, on application admitted Freeman and took the Freeman's Oath."<sup>138</sup> "But," as Samuel L. Mitchill said in 1807, "this part of the Charter has, of late years been but little acted upon. Freeman are seldom created; and no prosecutions are brought against those who carry on business without taking out their freedom."<sup>139</sup> "At a Common Council held the 8th day of March, 1815," the City enacted its last "Law to regulate the admission of Freeman in the City of New York." The act follows:

Be it ordained by the Mayor, Aldermen, and the Commonalty of the City of New York in Common Council convened. That each person hereafter to be admitted and made a Freeman of the said city (other than such as were born or have served a regular apprenticeship of seven years within the same) shall pay as follows; to wit: A merchant trader or shopkeeper, the sum of twelve dollars and fifty cents, and a mechanic the sum of two dollars and fifty cents, for the corporation of the said city; and that every person on being admitted and made free as aforesaid, shall pay the following fees, to wit: One dollar to the clerk, and twenty-five cents to the crier of the Mayor's Court.

And further, That each person hereafter to be admitted and made a Freeman of the said city shall take, before the Mayor and any four of the Aldermen, the following oath or affirmation, to wit:

I do swear, or affirm (as the case may be). That I as a Freeman of the City of New York, will maintain the lawful franchises and customs thereof; that I will keep the said city from harm as much as in me lieth, and that I will in all things do my duty as a good and faithful Freeman of the said city ought to do.<sup>140</sup>

With but few minor changes of phraseology, and necessary modifications of the fee-requirement, this law reproduces the essential features of the earliest colonial legislation concerning the admission of freemen. Since 1815 no freemen have been admitted in the City of New York except those upon whom the freedom was bestowed "as a testimonial of respect or gratitude, on the part of the corporation, towards persons in high station, or who may have entitled themselves to the honor

<sup>138</sup> N. Y. Hist. Soc. Collection 1885, pp. 365-9.

<sup>139</sup> Mitchill, Samuel L., *The Picture of New York* (New York, 1807).

<sup>140</sup> N. Y. Hist. Soc. Collection 1885, p. 399.

by personal merit, or some distinguished service.''<sup>141</sup> There are many instances of such admissions in the city records, dating from the colonial period to as late as 1866 when President Andrew Johnson was so honored upon the occasion of his visit to New York.

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<sup>141</sup> Kent, Chancellor, *The Charter of New York* (New York, 1836), p. 152.

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THE RESTORATION OF THE SOUTHERN  
RAILROADS



BY

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## THE RESTORATION OF THE SOUTHERN RAILROADS

It is unnecessary to point out the importance of transportation to modern civilization. The precise importance of railroads in the system of transportation at the close of the Civil War, however, is a matter that requires some definition. The southern portion of the United States is splendidly provided with waterways, large portions of it developed before railroads were devised; and it might seem that their destruction would not paralyze commerce, but only cause a return to previous conditions. A moment's thought shows that this could not be the case. Railroads had been operating for twenty-five years, and large areas had been settled not only in the newer states but also in the inter-river portions of the older which were absolutely dependent on the facilities they gave. The railroads, moreover, had changed the direction of trade all over the South, and the destruction of the railroad would not of itself restore the system which previously served the regions developed before railroads became important. Warehouses and equipment for handling the returned trade would not appear over night, and perhaps still more serious would be the absence of known commercial connections. In the almost total lack of quick capital in the South after the war, the good name of private firms of merchants and of private bankers was a necessary asset. To have deflected trade routes would have gone far toward adding this to her other losses. In fact, a great industrial growth can not be pruned by cutting off the development of a given period, the growth has extended throughout the plant from topmost bough to root. Before long, we will see Europe in the throes of reconstruction, and it is safe to say that this will have to be accomplished by making the driving force fit the plant, by increasing the use of mechanical power, and by the importation of labor, rather than by reducing the industrial system to the diminished industrial forces of the mutilated

nations. The restoration of the southern railroad system, therefore, was a necessary preliminary to the economic restoration or reconstruction of the South.

Doleful as the story of Reconstruction is in many respects, it is light itself compared to what it would have been without the rickety progress of the snail-like southern freight. In the general absorption over political reconstruction, however, the restoration of this fundamental is left to the imagination. Only a miracle could have provided the South with the ordinary means of transportation in 1865, but the miracle happened, and this is its gospel.

The skeleton of the southern railroad system had been planned with remarkable foresight and was almost complete before the war broke out.<sup>1</sup> During the war, it was completed. The unfinished links of the eastern through route from Richmond to New Orleans,<sup>2</sup> that from Danville to Greensboro, and from Selma, Alabama, to Meridian, Mississippi,<sup>3</sup> were built, and a spur thrust forward to bring Florida beef over the Georgia roads to Lee's army.<sup>4</sup>

These were, however, hardly additions if we consider the system as a whole, for much of the material was secured by tearing up less essential lines,<sup>5</sup> while still other branches yielded the rails that supplied most of the armor of the Confederate rams.<sup>6</sup> These petty readjustments, however, were as nothing compared with the wear without repair that in four years ate the heart out of the system.

When the war began, the Confederate railroads were well regarded by investors.<sup>7</sup> They were built in part by bonds sold to foreign and northern capitalists, in part by money paid by the state for shares. Most of the share capital, however, was owned by people along the lines, who had paid money

<sup>1</sup> Phillips, U. B., *History of Transportation in the Eastern Cotton Belt*.

<sup>2</sup> Ramsdell, C. W., *The Confederate Government and the Railroads*, in *American History Review*, XXII: 801-802.

<sup>3</sup> *Ibid.*, 802.

<sup>4</sup> *H. Reports of Committees*, 2d sess., 40th Congress, No. 3, 43-48, 59, known as the *Live Oak*.

<sup>5</sup> *Ibid.*, 49.

<sup>6</sup> *Ibid.*, 57.

<sup>7</sup> Fish, C. R., *The Northern Railroads, April, 1861*, in *American History Review*, XXII: 789.

for their shares and who took an active interest in the management. They were run to pay dividends, not to make speculative fortunes; and they were, as compared with the northern roads, run economically and successfully.<sup>8</sup> This pleasant picture concealed, however, essential weaknesses. The roadways were unsatisfactory, that of the *Memphis and Charleston*, one of the best in the South, for instance, consisting of U rails.<sup>9</sup> The rolling stock was scant, and nearly all companies were dependent for supplies upon importations from the North or abroad.<sup>10</sup> If there had been no war, the companies would doubtless have found themselves in distress when they learned that even reasonable repairs could not forestall the necessity of periodic replacement. When four years went by with practically no repair and with the rough usage of war superadded, this crisis was practically at hand.<sup>11</sup>

Wear was not, of course, left to work its results unaided. As the northern armies threatened to advance, the Confederate military authorities, after running off the rolling stock, destroyed in the face often of protesting agents of the companies, as much of the permanent way as they knew how.<sup>12</sup> They never acquired, however, the skill in this art of the more mechanically minded northern soldiers, as the latter scarcely reached the thoroughness of the Germans in dealing with Russian roads. A favorite picture of Sherman's march was of soldiers about fires of ties, twisting the heated rails into corkscrews.<sup>13</sup> Nor did the fluctuating battle lines alone mark the range of destruction. Raiding parties of both sides were largely aimed at destruction of transportation. Wilson's raid of 1865 in Georgia and Alabama was almost as disabling, though not so permanently destructive, as Sherman's march.

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<sup>8</sup> See *H. Reports of Committees, 2d sess., 40th Cong., No. 3, passim*, the presidents of nearly all the southern railroads answered questions regarding the ownership of their capital in great detail.

<sup>9</sup> *Ibid.*, 67.

<sup>10</sup> Fish, *Northern Railroads*, 789.

<sup>11</sup> Ramsdell, *Confederate . . . Railroads, passim*.

<sup>12</sup> *H. Reports of Committees, 2d, 40th Cong., No. 3, 44 and passim*, all presidents were questioned as to the terms under which they performed Confederate service, and many answered in detail on such subjects.

<sup>13</sup> Rhodes, J. F., *United States*, V: 21, 87.

In Tennessee, few miles escaped destruction, except the road between Chattanooga and Knoxville; in Virginia, except those about Lynchburg; in Mississippi the destruction was almost as complete. In North Carolina, the eastern roads; in South Carolina, those of the central portion of the state; in Georgia, those of the heart of the state, were in tatters for miles. Alabama suffered less, but at vital spots. Florida, Louisiana, and the region beyond the Mississippi had little to lose, but they lost most of it.<sup>14</sup>

To be specific, this destruction consisted in the almost complete breaking of bridges on all but the most remote stretches. In the absence of high explosives, however, the masonry remained for the most part intact.<sup>15</sup> The iron probably did not rest intact upon any complete road in the South; in many cases, it was torn off for twenty or thirty miles together, and often removed or twisted.<sup>16</sup> The ties remained more often than the tracks, but hundreds of miles of them had been used for firewood, the almost universal railway fuel in the South. The grades, representing with the masonry about half the cost,<sup>17</sup> but not half that of replacement, owing to the enhanced price of iron,<sup>18</sup> had suffered least. Along the rivers they were washed out, the *Memphis and Little Rock* almost disappearing,<sup>19</sup> and elsewhere they were rainwashed and disintegrated, but in the main, existed. Depots were generally burned, and rolling-stock destroyed, worn and lost, so that few roads could muster half they had had, and the total re-

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<sup>14</sup> Material exists from which one could map this destruction almost mile by mile. *H. Reports of Committees*, 2d sess. 39th Congress, No. 34 (About 1200 pages); 2d sess. 40th Cong., No. 3; The post bellum reports of the southern railroads nearly all of which may be found in the *American Railroad Journal* 1865-1867; also the *Southern Recorder* (Millidgeville), for 1865 and 1866.

<sup>15</sup> Fish, *Northern Railroads*, 786.

<sup>16</sup> See note 13.

<sup>17</sup> See note 14.

<sup>18</sup> See, for instance, M. E. Dabney, in *Am. Rail Road Journal*, Sept. 29, 1866.

<sup>19</sup> See also *Vicksburg, Shreveport, and Texas*, *Ibid.*, Feb. 24, 1866.



maining in the South could hardly have been a third that of 1861.<sup>20</sup>

The dead loss, however, does not represent the total disaster, for recuperative power, credit, was for the most part gone also.<sup>21</sup> The bond interest, due for the most part to northern and European capitalists, had been unpaid, with infinitesimal exceptions,<sup>22</sup> for four years, and increased the mortgage weight from twenty to twenty-five per cent. Dividends had been declared during the war, but in the case of stock held outside the Confederacy, not a large nor a negligible item, remained unpaid or, in cases where the registration act had been administered, paid to the Confederate government or its assigns.<sup>23</sup> These must be paid to render the roads solvent.<sup>24</sup> The roads had been busy during the war and at good rates, but it had been for the Confederate government. The portion of the receipts not yet paid out was represented by bank deposits, currency, or notes of the Confederate government, and was, therefore, worthless.<sup>25</sup> Add to this that the region was left without a circulating medium or banks, and it is

<sup>20</sup> A partial report by Col. S. R. Hamill, Sept. 30, 1867, estimates the loss of 21 roads, not including those that suffered most, at \$28,187,404.32 of which \$15,106,325.51 was in Confederate credit, *H. Exec. Doc. 2d sess. 40th Cong.*, No. 73, 56.

<sup>21</sup> See note 13.

<sup>22</sup> See note 7.

<sup>23</sup> *H. Reports of Comm.*, 2d sess., 40th Cong., No. 3, 38 ff.

<sup>24</sup> The president of the *Wilmington, Charlotte, and Rutherford* road told his stockholders, Oct. 25, 1866: "We must approach the capitalists of the north with perfectly clear hands", *Am. R. R. J.*, Nov. 10, 1866.

<sup>25</sup> The *Memphis and Charleston* lost \$107,900.77 due from the Confederate government and \$63,577.50 in bank deposits and currency, *Am. R. R. J.*, Nov. 19, 1866; the *South Carolina Railroad* lost \$735,260.74 in Confederate securities, \$61,570.87 in unpaid Confederate postal accounts, and \$2,668,755.26 in unsettled transportation accounts, *Ibid.*, Apr. 21, 1866; the *Mobile and Ohio* lost in similar debts over \$5,000,000, *Ibid.*, May 12, 1866. These figures are from company reports. Other losses due to such causes were: *Montgomery and West Point* \$1,172,497, *Rome* \$52,509.25, *Southwestern* \$1,951,520.21, *Nashville and Chattanooga* \$290,667.34, *Alabama and Tennessee* \$1,000,000, *Mississippi Central* \$563,797.64, *New Orleans and Opelousas* \$545,237.47, *Atlantic and Western* \$1,250,000, *Georgia* \$1,463,058.18. *H. Exec. Doc.*, 2d sess., 40th Cong., No. 73, 56. These figures are from a "partial" list by a United States agent, see note 20; the *New Orleans and Jackson* received \$1,200,000 of Confederate bonds, of which it sold a few during the war, *H. Reports of Comm.*, 2d sess., 39th Cong., No. 34, 128.

obvious that the southern railroad managers faced a task impossible for them to accomplish.

War, however, was recreating what her advance trod upon. The Civil War was the first great war of railroad communications. Sherman cut loose in 1864, but for a headlong march carefully calculated to pass through the areas best suited to support his army for a few days.

General Thomas said: "In military operations, fifty miles beyond its base of operation, an army becomes embarrassed in its transportation by wagons, unless you have a country to draw your supplies from"; he stated that operations followed lines of communication, because a defensive army must defend its lines of communication, which keeps it near them, and the defensive draws the offensive;<sup>26</sup> Sheridan stated that military operations were apt to follow railroads if long extended, and the maintenance of the railroads was necessary for subsistence.<sup>27</sup> If, therefore, the northern armies were to operate in the South, they must find or build a railroad system.

The handling the railroads by the war department of the United States during the Civil War is one of the most creditable chapters of our administrative history. That story can not be given here, but the results must be sketched.<sup>28</sup> The United States, like the Confederacy, took all available material for which there was not an immediate use. It, therefore, completely stripped various branch lines, such as the Richmond and York River<sup>29</sup> in Virginia, amounting to 156 miles in all.<sup>30</sup> On the other hand, it felt the need of completing the existing system where it was defective. One of the most important instances was the finishing of the *Nashville and Northwestern*, which completed the Tennessee river route

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<sup>26</sup> *H. Reports of Committees, 2d sess., 39th Cong., No. 2, 87.*

<sup>27</sup> *Ibid.*, 167.

<sup>28</sup> For a very brief sketch of the government policy, Fish, *Northern Railroads*.

<sup>29</sup> *H. Reports of Committees, 2d sess., 40th Cong., No. 3, 2.*

<sup>30</sup> *H. Exec. Doc., 1st sess., 39th Cong., report of McCallum, in the report of the secretary of war; H. Report of Comm., 2d sess., 40th Cong., No. 3, 83-85.*

to Nashville.<sup>31</sup> It brought rails over Long Bridge at Washington and completed a connection at Alexandria,<sup>32</sup> giving the first physical contact between the northern and southern systems in the East. It completed the connection at Petersburg,<sup>33</sup> the infamous lack of which had hampered Lee for years. After the war was over, it built a line from Brazos Santiago to the Rio Grande to facilitate the supply of the army on the Mexican border.<sup>34</sup> The real contribution, however, was the rehabilitation of the main supply lines, which were equally the keys of commerce and of war. This work was at first of the most temporary nature. Trestles were strung from abutment to abutment, and rails of all kinds and sizes patched to fill the gaps torn in the road bed. As the war stretched out indefinitely, however, the economy of doing the work well became more apparent.<sup>35</sup> The accidents to troop trains perhaps added weight to produce conviction; the possibilities of efficient service increased; the right men rose to the head of the organization: Michigan furnished an engineer regiment especially fitted for railroad work,<sup>36</sup> and

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<sup>31</sup> According to W. R. Innes, who did the government work, and subsequently became superintendent, he found 27 miles from the Nashville end and 5 from the Johnsonville end of a 93 mile road, and the rest graded with ties and timber. He used 4 companies of the Michigan (railroad) engineers, 2 regiments of negroes, and some civilians. In the accounts turned in the military labor was not counted. Its completion was ordered by Rosecrans. This road was the center of a tornado of changes and contradictions. *H. Reports of Comm., 2d sess., 40th Cong., No. 3, 65, 67, 101-103, 286-300*; *H. Exec. Doc., 2d sess., 40th Cong., No. 73*. Its reported cost was \$1,471,397.96, *H. Reports of Comm., 2d sess., 39th Cong., No. 34, 143-146*. It is interesting to note the opposition of the Louisville and Nashville to its completion; *H. Reports of Comm., 2d, 40, No. 3, 33*.

<sup>32</sup> *H. Report of Comm., 2d sess., 39th Cong., No. 34, 397*, at a cost of \$107,328.88.

<sup>33</sup> *H. Report of Comm., 2d sess., 40th Cong., No. 3, 19*; see Ramsdell, *Confederate Railroads*, 797.

<sup>34</sup> *Ibid.*, 169. The New Orleans *Delta*, quoted in the *Am. R. R. J.*, 1865, 819, reported that General J. D. Webster was inspecting southern railroads to report on the cost of restoring them, and it was supposed the government would aid, "in case of war with the French in Mexico . . . President Johnson is too far-sighted not to have thought of the momentous fact."

<sup>35</sup> Quartermaster-General M. C. Meigs, *H. Reports of Comm., 2d sess., 39th Cong., No. 34, 259*.

<sup>36</sup> *Ibid.*, 88; *2d sess., 40th Cong., No. 3, 65, 83, 85*.

the colored regiments supplied endless labor.<sup>37</sup> In 1864, therefore, the work became one of real restoration, and in some cases, improvement.

I do not find that grades were improved, but tracks were well laid with good material. The *Nashville and Chattanooga*, Sherman's main supply line, for instance, was laid almost, if not entirely, with T rails in place of U rails.<sup>38</sup>

Bridges were built, not indeed with iron, but with well-constructed trusses prepared often in the North, and slipped into place, where they were fitted to last for some time.<sup>39</sup> Depots were not indeed rebuilt,<sup>40</sup> but all the other paraphernalia of a railroad was furnished with even a lavish hand. Wood piles were maintained on a scale of permanent operations; warehouses far ampler than ever before were built at appropriate spots, at Nashville were workshops extraordinary for the presence of a remarkable engine of romantic history designed for the Memphis navy yard.<sup>41</sup> At New Orleans was a car factory,<sup>42</sup> and at Chattanooga a rolling mill of large capacity built entirely by the government.<sup>43</sup> The volume of business was greater than ever before, and it was accommodated by a vast rolling-stock.<sup>44</sup> The law of January 31, 1862 gave the United States power to seize railroad material in the North as well as the South. Agents circulated east and west, taking some supplies from the roads, but chiefly

<sup>37</sup> Quartermaster-General M. C. Meigs, *H. Reports of Comm.*, 2d sess., 46th Cong., No. 3, 65, 83, 85.

<sup>38</sup> *Ibid.*, 67.

<sup>39</sup> *H. Reports of Comm.*, 2d sess., 39th Cong., No. 34, 407, eighteen and two-thirds miles were constructed.

<sup>40</sup> *Am. R. R. J.*, 1865, p. 725; *H. Reports of Comm.*, 2d sess., 40th Cong., No. 3, 65, etc.

<sup>41</sup> *H. Reports of Comm.*, 2d sess., 39th Cong., No. 34, 143-146, 279.

<sup>42</sup> *Ibid.*, 245.

<sup>43</sup> *Ibid.*, 35, 71, 78, actually finished April 1, 1865; produced railroad iron at cost of \$35 per ton, when the government was paying from \$40 to \$130; *Ibid.*, 424; *H. Exec. Doc.*, 1st sess., 39th Cong., No. 1, Report of McCallum, May 26, 1866; it was sold at auction October 5, 1865 for \$175,000, not a bad price considering that the United States could not give title to the land, *H. Reports of Comm.*, 2d sess., 39th Cong., No. 34, 35.

<sup>44</sup> 433 engines and 6,605 cars were used; of the engines, 282 were purchased, 36 built, and 115 captured; of the cars, 5,380 were purchased, 609 built, and 616 captured; 260 engines and 3,383 cars were for use in the Mississippi region, *Ibid.*, 322 ff.

commandeering what was building.<sup>45</sup> Particularly the Tennessee system was prodigally supplied by a certain colonel whose extravagance caused his removal.<sup>46</sup> These government trains carried over the reconstructed roads not only troops and their supplies, but private passengers and freight, which paid the usual rates.<sup>47</sup>

As a result of these dual processes of destruction and reconstruction, the close of the war found the southern system ruined, but, on paper, more complete than before the war. The actual conditions varied from region to region. In Virginia, the reconstruction was well done, but scant, as Grant relied so largely on water communications.<sup>48</sup> In North Carolina, the roads from the coast followed Sherman's army to the border of Virginia. In the Georgia and South Carolina regions devastated by Sherman, there was little rebuilding, for he passed quickly on. In western Georgia, Alabama, and eastern Mississippi, there was little reconstruction and the destruction was of the sporadic character, produced by raids. In Louisiana, but particularly in Tennessee, the reconstruction probably made good the destruction. On the whole, the United States was actually operating about one-third of the mileage of the South.<sup>49</sup>

In the amorphous period of the spring and early summer of 1865, between war and peace, much was left to department officers, and varying policies were pursued. General Canby of the Gulf, where much of the system fell to him by sur-

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<sup>45</sup> *Ibid.*, 158, 266-275.

<sup>46</sup> *Ibid.*, 173.

<sup>47</sup> The volume of private business over the Nashville and Chattanooga under government control was \$632,910.72. *Ibid.*, 277 ff.

<sup>48</sup> McCallum reported 177 miles, 2,961 feet of road laid in Virginia, of which 122 miles and 5,163 feet were taken up. *Ibid.*, 403.

<sup>49</sup> A fair idea of the track put in operating condition by army is given by the statement of 3,630½ miles operated, on 50 roads; the statement by Quartermaster Col. Alexander Bliss is more complete than that by McCallum, as it includes a few that did not come under the latter's jurisdiction, *H. Reports of Comm.*, 2d sess., 39th Cong., No. 34, 313. It is to be compared with the total figure of about 9,000 miles for the Confederate area, Fish, *Northern Railroads*, 781.

In considering the whole question of transportation, the 318 river boats, worth about \$8,000,000, which were destroyed, should be considered, *H. Reports of Comm.*, 2d sess., 39th Cong., No. 34, tables.

render rather than capture, first offered freedom from confiscation to all rolling-stock voluntarily turned over to him, and then ordered the roads to complete repairs promptly under penalty,<sup>50</sup> continue operations, and transact government business on the terms of the arrangement reached between the government and the northern roads.<sup>51</sup> General Gilmore at Charleston, knowing the roads to be without credit, granted the *Charleston and Savannah* 10,000 rations<sup>52</sup> to start their rebuilding. At Vicksburg, General Osterhaus undertook to reconstruct 32 miles of track, with bridges, between Jackson and the Big Black.<sup>53</sup>

These orders were based on the principle that military necessity still existed, and that the proper distribution and maintenance of troops required the rapid restoration of the transportation system.<sup>54</sup> One can not help regretting that this condition could not have lasted somewhat longer, for with its experience and facilities, the military department of railroads, as it then existed under General McCallum, could without a doubt have completed the task more quickly and efficiently than any private organization.

To that generation of individualists, however, such a suggestion seems never to have occurred. General Sheridan considered that the railroads were military prize, and when captured became government property.<sup>55</sup> He did not, however, propose that the government continue to operate the property thus acquired, rather it should sell it at auction.<sup>56</sup>

<sup>50</sup> *H. Repts. of Comm.*, 2d sess., 39th Cong., No. 34, 247, 496, all put in repair except Jackson road.

<sup>51</sup> See also, *H. Reports of Comm.*, 2d sess., 39th Cong., No. 34, 127.

<sup>52</sup> *H. Reports of Comm.*, 2d sess., 40th Cong., No. 31, 28, the president of the road says the order was not executed, the president of the *North-eastern* road says he was given rations for 100 men for a month.

<sup>53</sup> *Am. R. R. J.*, Sept. 29, 1866; General Ord gave the *Virginia Central* permission to run on April 19, 1865, subject to revocation, *H. Reports of Comm.*, 2d sess., 40th Cong., No. 3, 7.

<sup>54</sup> *Am. R. R. J.*, Sept. 28, 1866; also *H. Reports of Comm.*, 2d sess., 39th Cong., No. 34, 247, 496; General Osterhaus reported to Canby that the Jackson road had "neither capital, credit, nor enterprise"; General Canby said of several roads that the companies were not "in a condition to put their roads in running order without the assistance of the military authorities."

<sup>55</sup> *Ibid.*, 169-172.

<sup>56</sup> *Ibid.*



Quartermaster General Meigs regarded them as "engines of war", which could be confiscated just like batteries, or if not so simply, at least under the confiscation acts, or at the very least all those used against the United States.<sup>57</sup>

Stanton accepted neither this law nor practice. To him, railroads were private property. If captured they were at the disposal of the captor for all purposes of war, whether for use or destruction; with peace, the rights of the owner recurred to what was left.<sup>58</sup> Auctions he disapproved because experience taught him that "rings" could not be prevented from manipulating them for private advantage.

Stanton's legal views were, of course, sound and generally accepted, but they merely gave a key to the handling of the problem. Most roads in the South were in the possession of the government; there was still much government business to be done, private business was reviving. When, how, could the roads be turned over, and to whom?

On May 19 and July 17, Quartermaster General Meigs took the initiative by writing to Stanton. He stated that the railroad administration was costing the government \$1,300,000 a month, that it would be most economical to turn them over to private ownership. He advised that they be returned to the several companies, on condition that the latter be reorganized with loyal boards of directors, that they be charged with the repairs performed by the government, and implying that railroad material in the hands of the government be sold at auction.<sup>60</sup>

The treatment of this proposal is wrapped in obscurity. Meigs believed that the modifications subsequently made in

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<sup>57</sup> *Ibid.*, 256.

<sup>58</sup> *Ibid.*, 266-275.

<sup>59</sup> *Ibid.*, 272.

<sup>60</sup> *H. Exec. Doc.*, 1st sess., 39th Cong., No. 165; *H. Reports of Comm.*, 2d sess., 39th Cong., No. 34, 259, "All material for permanent way used in the repair and construction of the road and all damaged material of this class, which may be left along its route, having been thrown there during the operation of destruction or repair, to be considered as part of a road and given up with it," and all rolling stock originally belonging to the road to be returned as soon as possible. In the case of the *Rogerville* road which was "loyal", he gave iron in waive of iron taken from it, *Ibid.*, 260.

it were the result of the personal influence of southern railroad presidents on President Johnson.<sup>61</sup> If the matter was discussed in cabinet, it was deemed by Welles as a trivial detail. In fact, between the date of this letter and the issue of the first general order, there were few cabinet meetings, and President Johnson<sup>62</sup> was in poor health, although not so poor as to prevent his being continually besieged by petitioners of all kinds. At any rate, Stanton assumed full responsibility for the policy adopted, and it seems probable that it was actually his own.

The order came on August 8, and provided that the departmental commanders restore the roads as soon as possible to the companies, reorganized on a loyal basis. The roads were to be handed over as they stood, and were to agree to put forward no claims for damages. All rolling-stock and other property which could be identified as the property of the roads was to be given them, wherever found.<sup>63</sup> The two most striking provisions were that the roads were to be allowed to take over any government stock they desired at an appraised value, on a short term credit, only the surplus not desired by the roads being offered at auction; and, secondly, that records be collected showing on the one side the amount expended on each road by the government, on the other the value of the services performed by that road.

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<sup>61</sup> *H. Reports of Comm., 2d sess., 39th Cong., No. 34, 259*; the Virginia Board of Public Works, which controlled about two-fifths of the stock of the roads of that state did send J. M. Botts to Washington, and the state of North Carolina sent Dr. Powell; representatives of various other roads are found there from time to time, *H. Reports of Comm., 2d sess., 40th Cong., No. 3, 18, 46, etc.*

<sup>62</sup> There seems to have been a consultation between Johnson and Stanton, *H. Reports Comm., 2d sess., 39th Cong., No. 34, 31.*

<sup>63</sup> *H. Exec. Doc., 1st sess., 39th Cong., No. 165*, Stanton to departmental commanders; recognize board of directors "whose loyalty shall be established to your satisfaction", make a complete triplicate inventory of property originally belonging to the roads, and of that furnished by the government, the roads to select what they wished of the latter and pay a fair valuation in 12 months, the government officials to make a statement of all expenses by the government for repair and all government receipts (this was done only by Thomas in Tennessee, *H. Reports of Comm., 2d sess., 39th Cong., No. 34, 307*), the Tennessee roads were to pay arrears on bonds guaranteed by the state, before declaring dividends, buildings were not to be considered a legitimate charge against the roads, nor rebuilding done to repair destruction done by the Federal army.

The first of these provisions was undoubtedly wise, if it could be honestly administered. As Stanton pointed out, one of the primary purposes of the Union was the promotion of internal commerce.<sup>64</sup> For this purpose the restoration of the southern railroads was essential. General auctions would have caused delay, and would have been controlled by rings which would have resold the property to the roads; the government would have gained nothing, the roads would have been more seriously burdened. One of the government staff afterward testified that the government received \$3,000,000 more from the Tennessee division alone by the system it adopted than it would have by auction, a statement to be taken, of course, with some salt.<sup>65</sup>

The second provision was perhaps a proper one for the executive department to make, for it left it open to the legislative and judicial departments to review the principles involved,<sup>66</sup> and to carry out another policy. In practice, it was most unfortunate, for it left it open to the railroads to intrigue for a recognition of claims for services, and to the northern radicals to press claims against the roads for the money spent by the government in restoring them. Its real object was doubtless expressed by Thomas who stated: "I always thought the object was to place the condition of the railroads in such form that if it should ever be determined by the government to allow the railroads rent for the use of the roads, it would enable it to square up the account by charging them with the expenses incurred by the government for keeping the roads in repair."<sup>67</sup>

The provisions of the bonds required from the railroads to secure the property they were to take were very severe, requiring personal security. As this could not be obtained,

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<sup>64</sup> *Ibid.*, 266.

<sup>65</sup> *Ibid.*, 143-146, Capt. F. J. Crilly, Asst. Quartermaster, in charge of reports on repair under order of August 8, nevertheless a very liberal guess.

<sup>66</sup> Meigs, who disapproved, considered that the military restoration left the whole judicial question open, *Ibid.*, 256.

<sup>67</sup> *Ibid.*, 86.

a modifying order was issued October 14, 1865, which allowed bonds on the security of the companies' rolling stock.<sup>68</sup>

The working out of these orders rested with the departmental authorities. In general, a liberal policy was followed. The question of loyalty was, of course, one allowing the widest latitude of interpretation. In most cases, pardon, whether under the general amnesty proclamation or special act of the President was regarded as sufficient, and on the whole the roads remained in southern hands, and very often in those of the old officials. When in 1866 General Hardee and General Beauregard turned up in prominent positions, many thought that liberality had become license and the government agent refused to recognize them.<sup>69</sup> The most important single piece of work was done by General George Thomas in Tennessee. He appointed a board of officials consisting of railroad experts who travelled over the roads with representatives of the latter. Here alone did the accounts actually show the amounts spent on each road, and the volume of government business passing over it.<sup>70</sup>

Questionable points were generally decided in favor of the roads. The connecting line between Danville and Greensboro, which there was some ground for claiming as the property of the Confederate government and therefore now United States property, was turned over to the *Richmond and Danville*.<sup>71</sup> In the same way, the Florida spur in the case of which there was still better ground for a similar claim, was turned over to the *Atlantic and Gulf*. The *Nashville and*

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<sup>68</sup> *H. Exec. Doc., 1st sess., 39th Cong., No. 165, 266-275.* Stanton.

<sup>69</sup> *Ibid.*, 132.

<sup>70</sup> *Ibid.*, 173. Mr. S. C. Kellogg, Mr. McQueen, superintendent of the Schenectady locomotive works, and a Mr. Finck, later in the shops of the Louisville and Nashville; they worked from August to January, 1866, in connection with three representatives of the railroads involved.

<sup>71</sup> This was turned over to the Treasury Department as Confederate property, but was given to the company December 9, 1865, on bond to make no claim against the United States, and to restore any property properly belonging to other companies; it had a separate organization as *Richmond and Piedmont*, but was really part of the *Richmond and Danville*; the Confederate government furnished \$1,500,000, but part of the funds were subscribed by individuals; *H. Report of Comm., 2d sess., 40th Cong., No. 3*; testimony of A. S. Berford; *2d sess., 39th Cong., No. 34, 98.*

*Northwestern* which had been at least half constructed by the United States government, was restored by special order.<sup>72</sup> The policy of the war department was common sense and the facilitation of traffic, and it recognized that its decisions were subject to judicial review.

Most of the departmental commanders seemed anxious to get rid of the railroads, though Colonel Boyd in North Carolina, who was making his pay, parted with them very reluctantly.<sup>73</sup> By July 7, 1866, the United States had retired from railroad business, the last operation being the sale of the Brazos line, constructed entirely by the government, to a private company, for more than it cost, as General Sheridan boasted.<sup>74</sup> For more than it was worth, perhaps, if one may judge by recent illustrations of it called out by the Mexican episode of 1916. On October 1, 1866, the quartermaster reported that of railroad property there remained only 700 tons of iron, 15 box and flat cars, 500,000 feet of bridge timber, a dismantled engine, and some tools, all of which was advertised to be sold in October.<sup>75</sup> It is to be noted that the telegraphs, which were separately handled, were also disposed of.<sup>76</sup>

The job of president of a restored southern railroad was a lively one. Economy was no question of choice. He could afford no surplus stock, his government purchases must just supplement the actual insufficiency of his own. But how

<sup>72</sup> *Ibid.*, 101; *H. Exec. Doc.*, 2d sess., 40th Cong., No. 73, 7.

<sup>73</sup> *H. Reports of Comm.*, 2d sess., 39th Cong., No. 34, 124, from August 1 to October 23, he received \$160,515.93 and paid \$81,178.34.

<sup>74</sup> See note 30, it was sold for \$40,000 more than it cost.

<sup>75</sup> *H. Reports of Comm.*, 2d sess., 39th Cong., No. 34, 433.

<sup>76</sup> The order of the Quartermaster-General of February 27, 1866 seems more liberal than that relating to railroads, for they were turned over to the companies owning the "telegraph patent rights" in the several regions, in consideration of the relinquishment by the companies "of all claims against the United States for the use of their patents, for the use of their lines preceding their final restoration, and for all losses . . . by the exclusion of commercial business"; the lines north of the Ohio had been closed from time to time. The United States built 14,211 miles of land telegraph, 178 of submarine, and 1000 miles of temporary field lines, besides controlling 5000 miles of company lines; the telegraph budget was \$3,219,400.00; *H. Reports of Comm.*, 2d sess., 39th Cong., No. 34, 434.

much of that remained and where was it? "Gentle shepherd, tell me where!" Fleeing the advancing Union forces, it had run over the whole South, and might now be shunted up some remote up-country branch with miles of railless grades between it and home. When the whole *Nashville and Chattanooga* roadway was occupied by Union forces in 1863, a controlling portion of the governing board and nearly all the stock had been run off south, where it had conducted so prosperous a business that it had paid dividends on the whole road.<sup>77</sup> President Burns found fourteen engines and a hundred flat cars hiding up branch lines in Georgia. The splendidly equipped Georgia state line from Atlanta to Chattanooga had been milked by the Confederate government early in the war, and its cars and engines were to be found wherever the gauge permitted them to run. To a considerable extent, the military commanders acted as the shepherds that brought home the errant stock.<sup>78</sup>

But not rolling stock alone had wandered. As we have seen, the rails themselves had caught the mobility which they fostered. Railroad presidents had an uncanny eye for such violators of the catechism direction to be content in the position to which it had pleased God to call them. Enhanced price and empty pockets gave value to all those twisted corkscrews which marked the line of Sherman's march. But complications arose. If rails had been taken from the *Nashville and Decatur* and relaid on the *Nashville and Chattanooga*, to whom did they belong? If rails had been torn up by the Union army, thrown into a junk heap with others, and sold, what rights had the original owner? Consider the case of the *Macon and Brunswick* railroad. Owned largely by northern capital, its northern stock had been sequestered by the Confederate government, and in part sold. When Brunswick was threatened by the Union fleet, the iron had been taken up and purchased by the Confederate government. Part of it had been used for iron clads, part laid on grades prepared by a road which was the joint property of the *Atlantic*

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<sup>77</sup> *H. Exec. Doc.*, 2d sess., 40th Cong., No. 73, 4.

<sup>78</sup> *H. Reports of Comm.*, 2d sess., 40th Cong., No. 3, 109.



and Gulf and the *Pensacola Branch*, run by the *Atlantic and Gulf* during the war, and returned to it afterwards. Were the rails the property of the *Atlantic and Gulf*, of the United States government as heir of that of the Confederacy, of the innocent purchasers of the stock sequestered by the Confederacy, or the original owners of the Brunswick road?<sup>79</sup>

I will not prolong this article to decide. In fact, lodging the question in the Federal courts, I, myself, left it, trusting that generally wise tribunal. I cite the case to illustrate the tangle of claims which involved the struggling companies. The military seem invariably to have adopted Alexander's method in dealing with the Gordian knot, and blotting out past histories, acted on the *status quo post bellum*. The restored roads, however, were, of course, free to reopen such questions before the courts, yet the number of legal complications actually tried out is but a feeble suggestion of what would have been the number had not the military, by its simple theory, created that presumption of possession which is so often nine-tenths of the law.<sup>80</sup>

But the chasing of rolling stock, rails, tools, blank ledgers, and firewood was but the avocation of these busy men, whose main work was to set wheels going. Hack lines at first floundered for miles to connect scattered fragments of the same road. The citizens of Shreveport crowded to see "the" engine move a few miles out of town.<sup>81</sup> Over such roads as operated, "the" train was the usual sign of returning life;<sup>82</sup> sometimes the tri-weekly train.

The magic charm to set the system going was, of course, capital, and the search for this led the presidents far afield, to return generally in disappointment. First, the bond interest must be funded to clarify the financial position. This was generally accomplished, as the bond holders were naturally interested in rapid restoration.<sup>83</sup> The *Georgia Central*

<sup>79</sup> *Ibid.*, 43-48, 51-64.

<sup>80</sup> See *Am. R. R. J.*, April, 1865, to April, 1866, *passim*.

<sup>81</sup> *Ibid.*, July 7, 1866.

<sup>82</sup> The *Wills Valley* ran tri-weekly, *Exec. Doc.*, 2d sess., 40th Cong., No. 73, 12.

<sup>83</sup> *Am. R. R. J.*, Sept. 29, 1866, and *passim* for 1865 and 1866.

seems to have been the only road which could borrow at once in open market, selling between seven and eight hundred thousand dollars worth of bonds in New York.<sup>84</sup> Private loans in Philadelphia, New York, and Baltimore netted the Virginia roads enough for absolute essentials.<sup>85</sup> Some roads owned a little cotton, which was as good as cash.<sup>86</sup> Meagre amounts were collected from the South itself. On the whole the South had confidence and realized the necessity of transportation. In fact, new lines were freely talked of.<sup>87</sup> The terms of stock subscription to one of the most promising of these, however, reveals the barrenness of the field. The *Virginia Valley* proposed to raise a million dollars, calling for 2 per cent at once, 15 per cent in three years, and the remainder in ten.<sup>88</sup> One is reminded of Colonel Carter of Cartersville. In fact, the two principal sources of the necessary capital were, first, the willingness of a number of northern firms, particularly those of Baltimore, St. Louis, and Louisville, to engage in bridge construction on credit,<sup>89</sup> and the charging of prodigious rates

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<sup>84</sup> *H. Reports of Comm.*, 2d sess., 40th Cong., No. 3, 33, term not given, 43-48.

<sup>85</sup> The question of the amount and sources of northern capital going to the southern railroads is much more obscure than other phases of the subject. *The American Railroad Journal* continually encourages such investments and reports that they are being made, i. e., Feb. 17, June 2, 1866; and southern railroads' presidents are constantly journeying to New York with bonds running to 8 per cent, and with attractive security features, generally preference over all previous bonds, *Ibid.*, July 7, Aug. 4, 1866, etc.; as early as Sept. 2, 1865, foreign investors were said to be interested in southern reconstruction; the Manhattan Bank and the National Bank of the Republic, both of New York, handled loans for southern roads, *Ibid.*, Jan. 16, Mar. 12, 1866; such loans in 1865 and 1866 were, however, very limited in number and amount, I doubt if two million were raised in this manner; small loans were made to various roads by the Adams Express Company which sought thus to receive exclusive privileges, *Ibid.*, Dec. 8, 1866; the *Central of Georgia* sold \$701,000,700 of bonds, at around 15 per cent discount, *H. Report of Comm.*, 2d, 39th, No. 34, 1011.

<sup>86</sup> The *North Carolina* railroad, for instance, reported that the damaged iron and cotton would about relay and stock it, *Ibid.*, Nov. 3, 1866.

<sup>87</sup> *Ibid.*, Oct. 27, 1866, one issue reports three extensive projects.

<sup>88</sup> *Ibid.*, June 2, 1866.

<sup>89</sup> The news of such contracts is constant as well as the establishment of agency houses in the North to buy for the southern roads, i. e., *Ibid.*, Dec. 4, 1865, Feb. 10, 1866; the *Baltimore and Ohio* and other northern roads undertook to survey and build for southern roads, *Ibid.*, Dec. 8,

for transportation, particularly of cotton. In fact, the cotton it had stored during the war was one of the essential features in the salvation of the South.<sup>90</sup> Yet there must be added to these material factors that flush of high hope which is always the emotional response to peace, and the natural consequence when hundreds of thousands of reunited families feel that all must be well because they are united. It would have been harder to perform the work in 1867, than it was in 1865 and 1866.<sup>91</sup>

By the spring of 1866, tenuous rehabilitation had taken place. The main roads boasted of splendid trains and improved sleepers.<sup>92</sup> Portions were, indeed, well restored, but over large stretches one doubts if the sleepers performed their office. Yet by hook and by crook trains were able to stumble to most of the necessary points. In February, 1867, General Sheridan coming by rail from New Orleans to Washington, by Jackson, Huntsville, Chattanooga, Lynchburg, and Richmond, reported that the portions rebuilt by the military were everywhere superior to those since restored.<sup>93</sup> On the eastern route probably no such generalization would be made. The military had constructed less, the Virginia and North Carolina lines were relatively well rebuilt, and some in Georgia; elsewhere aeroplanes, had they existed, would probably have given greater comfort and security.<sup>94</sup> Nevertheless the essen-

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May 5, Nov. 24, Dec. 7, 1866. As time went on, the weaker southern roads were snatched up by northern capitalists, and capital thus secured at the expense of control, *Ibid.*, Sept. 4, Nov. 17, 1866, *H. Exec. Doc.*, 2d sess., 40th Cong., No. 73, 24ff.

<sup>90</sup> The roads began at once to receive more than they expended, in fact, this was a necessity, and many smaller roads paid for their repairs out of the receipts on the running portion. The rates were very high, particularly on cotton, the high price of which, and the desire of the owner for cash, obviated haggling.

<sup>91</sup> *H. Exec. Doc.*, 2d sess., 40th Cong., No. 73, 3-40, R. Hamill confirms this view.

<sup>92</sup> *Am. R. R. J.*, Aug. 5, Sept. 1, 1866.

<sup>93</sup> *H. Reports of Comm.*, 2d sess., 39th Cong., No. 34, 169.

<sup>94</sup> Hamill reported at the end of 1866 the condition of 32 roads; 3, the *Memphis and Charleston*, the *Western and Atlantic*, restored in large part by the U. S., and the *Central Georgia*, which had not suffered severely and had the best credit, were rated excellent; of the others, the roadbed was reported excellent on 3, good on 11, fair on 10, poor on 5; ties, excellent on 2, good on 12, fair on 11, poor on 4; rails, excellent on 2, good

tial had been done, the *Georgia Central* and the *Augusta and Southern* were paying dividends on stock,<sup>95</sup> and some others interest on their bonds.<sup>96</sup>

The railroad system was saved, but not yet the companies. Very few indeed were able to meet the conditions of their bonds to the government. Under threat of seizure of their rolling stock, they applied for extension, generally based on the principle of twenty-four or thirty-six monthly installments. It was, of course, obvious that the original bond allowance of one year was too short: it was based on the universal miscalculation of unreasonably quick returns which has been the root of so much of our financial trouble. Stanton, in fact, testified that he knew it was too short, but so fixed it to be a stimulus to quick action.<sup>97</sup> Mr. S. R. Hamill was sent to carefully examine the finances of the roads, and returned discriminating reports recommending grace in many cases, and pressure in others. As with Meigs' proposal, the final action was milder than that suggested by the subordinate official. In fact, all extensions were granted. If, however, this seems too great a laxity, it must be remembered that the roads were paying 7.3 per cent interest.<sup>98</sup>

It is not, however, surprising that this condition of affairs was not satisfactory to Congress. The roads most negligent were those of Tennessee, which were in the best condition, and which were, pregnant omen, of the President's own state,

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on 12, fair on 9, poor on 6; bridges, excellent on 1, good on 11, fair on 14, poor on 3; locomotives, excellent on 2, good on 13, fair on 12, poor on 2; rolling stock, excellent on 3, good on 13, fair on 11, poor on 2; 22 in all had machine shops, rated, excellent, 4; fair, 8; good, 9; poor, 1. *H. Exec. Doc., 2d sess., 40th Cong., No. 73, 52.*

<sup>95</sup> *Am. R. R. J.*, Dec. 22, 1866, the *Nashville and Chattanooga* was reported to have declared a dividend secretly, not being allowed to pay one until its debt due the government was paid, *H. Exec. Doc., 2d sess., 40th Cong., No. 73, 4.*

<sup>96</sup> Some bonds and even stocks were quoted as early as September 2, 1865 (*Am. R. R. J.*), *Atlantic and West Point*, stock 125, *Georgia Central* 100, *Richmond, Frederick and Potomac*, 77, *Virginia Central* 70. These stocks remain so stationary that it is doubtful if there were many sales; the post bellum bonds of the *Georgia Central*, 7 per cent, sold April 24, 1866, at 90. *Southern Recorder.*

<sup>97</sup> *H. Reports of Comm., 2d sess., 39th Cong., No. 34, 272.*

<sup>98</sup> *H. Exec. Doc., 2d sess., 40th Cong., No. 73;* in the case of the *Edgeville and Kentucky* he recommended seizure.

and in which he was interested as a holder of state guarantee bonds. In the case of the *Nashville and Northwestern*, the order granting an extension of credit was by the President himself.<sup>99</sup> These roads, moreover, were making offsetting claims for services rendered during the war, on the ground of the loyalty of some officials: a tangled question in that rent state.<sup>100</sup> Whisper also came to Washington of a concerted attempt on the part of the roads to secure increased compensation for their present government services, chiefly mail carrying. It was said that certain unsavory New York brokers offered to undertake the job on a high commission, part of which was to "go to Washington".<sup>101</sup>

How far such special incentives were necessary to produce distrust of the executive in the minds of the Thirty-Ninth Congress may be questionable. At any rate, on December 4, 1866, a committee of five was appointed to report "..... the past and present relations existing between the Federal government and the railroads in the States lately in rebellion; the amount of money expended by the United States authorities in constructing, repairing, equipping, and surveying said roads; the amount of money each road is owing to the government. . . . and they shall report what in their opinion would be the proper course to be taken by the government."<sup>102</sup> It consisted of Horace Maynard, J. W. McClurg, Ulysses Mercur, H. D. Washburn, and J. W. Chandler, with Edward McPherson as clerk; Philetus Sawyer later took the place of Maynard. It undertook an elaborate inquisition, during

<sup>99</sup> *H. Reports of Comm.*, 2d sess., 39th Cong., No. 34, 175.

<sup>100</sup> *H. Exec. Doc.*, 2d sess., 40th Cong., No. 73, 14, etc.; *H. Reports Comm.*, 2d sess., 39th Cong., No. 34, 277; in the case of the *Nashville and Chattanooga*, however, the government could show, not that it recognized the claim, that it spent \$4,079,511.33 on the road, used it in the extent of \$3,134,204.92, and received \$632,910.72 for private use, *Ibid.*, 281, letter of Meigs, December 13, 1866. One of course recognizes that the citation of cents does not mean infallible accuracy.

<sup>101</sup> *H. Reports Comm.*, 2d sess., 40th Cong., No. 3, 130.

<sup>102</sup> *H. Reports Comm.*, 2d sess., 40th Cong., No. 15, on March 27, 1867, the reappointment of the committee was authorized with power to send for persons to give evidence, and on July 12, 1867, the committee was instructed to inquire into the expediency of reporting a bill declaring forfeited the land grants of 1836 in Mississippi, Alabama, Florida, Louisiana, and Arkansas.



which it brought before it everyone concerned with the railroads during and after the war, and took, with other members of Congress, a Christmas holiday junket to the South to see the actual roads.<sup>103</sup> Nearly all the railroad presidents and many of their officials appeared before it. Not many specific facts of a damaging character were brought out, but on the whole, the eastern roads made a better impression than those of the west. One eastern president actually had the temerity to state that he had supported the Confederacy, whereas nearly all in the west claimed a loyalty, which had, in most cases, been effectually concealed during the war. President Johnson seems conclusively cleared from all charges of interested interference. The general policy which had been adopted was supported by Stanton and Thomas, but attacked by Meigs and Sheridan.

The situation was, however, not one with which evidence had much to do. The main purpose which animated the committee was the chance to take another slap at the South. Its report was surcharged with brimstone, and hurled its fire at those who had turned \$78,202,000<sup>104</sup> into the hands of traitors. Thaddeus Stevens' idea of confiscation, however, had never won much support. The American people have usually been generous in money matters. The committee, moreover, confronted a *fait accompli*, which had been created, too, by men of undoubted loyalty.

In a report signed by McClurg, Mercur, Washburn and Sawyer, it attacked the principle of repairing the roads without compensation, and stated that they should have been sold for the benefit of Union men, but it confined its recommendations to a suggestion that the judiciary committee be instructed to bring in a bill declaring invalid any claim by state or railroad for damage or service prior to the restoration of the road to the company, and another compelling

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<sup>103</sup> *H. Reports of Comm., 2d sess., 30th Cong., No. 34, 17.* Between Dec. 12, 1866 and Feb. 28, 1867, it held, however, 28 meetings.

<sup>104</sup> This was the estimated value of the roads, the committee made their total more impressive by adding \$45,367,480, the total cost of the railroads to the government during the war. *Ibid.*



immediate liquidation of indebtedness.<sup>105</sup> On December 11, 1867, the report was tabled.<sup>106</sup>

The sight of a committee of the Thirty-Ninth and Fortieth Congresses, balked of its prey, seems to have had a curious psychological effect upon that prey, although the withdrawal of martial law at about the same time may have been the chief cause for what followed. Up to November 27, 1867, about forty per cent of the indebtedness of the southern roads had been liquidated,<sup>107</sup> for the most part by those of the east. Then the roads simply stopped paying. Suits were ineffective. An act on March 3, 1871, allowed the secretary of war, with the attorney-general, to compromise, to protect the government against loss by insolvency.<sup>108</sup> Under this act, the *Nashville and Chattanooga* escaped \$1,857,332.41 of debt for \$1,000,000, half to be paid in ten years, and half in twenty, the whole bearing 4 per cent interest.<sup>109</sup> The *Nashville and Decatur* quieted \$305,808.63, for \$70,000, \$6,000 in cash, the remainder to be paid in ten years and bear 5 per cent interest.<sup>110</sup> February 27, 1875, a new act was passed allowing settlement by an abatement not to exceed 25 per cent of the appraised value of the materials sold the roads.

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<sup>105</sup> *Ibid.*

<sup>106</sup> *H. Reports of Comm., 2d sess., 40th Cong., No. 3.*

<sup>107</sup> *Ibid.*, \$2,169,456.48 had been paid in cash, \$708,569.42 in transportation, and \$581,288.39 in carriage of mail; \$4,884,500.62 was due; the original debt was \$7,370,196.16, *H. Exec. Doc., 1st sess., 39th Cong., No. 165*, of which \$6,503,182.98 was the amount sold on appraisal; in addition \$3,403,412.22 had been sold for cash. Additional items, such as passengers, freight, and rent brought the total government receipts to \$12,623,965.83. *H. Exec. Doc., 1st sess., 39th Cong., No. 1*, report of General McCallum; this was against a total expense of about \$42,000,000. I use McCallum's figure rather than that of the committee, though the actual truth probably lies between them. The full financial history may be followed in the annual reports of the Quartermaster-General, and particularly in the enclosures giving the reports of the Quartermaster; by June 30, 1871, 27 railroads had paid their full indebtedness, and 23 were still indebted for \$4,724,350.53.

<sup>108</sup> *U. S. Statutes, 3d sess., 41st Cong., Ch. CIX.*

<sup>109</sup> *Report of Quartermaster, June 30, 1871, Table B; Report of Quartermaster-General, Sept. 25, 1871, 202.*

<sup>110</sup> *Ibid.*, 1873, 167, 187.

with the limitation that agreement must be reached within a year.<sup>111</sup>

The settlements under this act and one of March 3, 1877, reopening the case of the *Western and Atlantic* of Georgia,<sup>112</sup> reduced the number of delinquent roads to four,<sup>113</sup> and the situation had considerably cleared. The preposterous claims of the Tennessee roads for compensation during the period the government held them were laid to rest. The debts of the *Nashville and Northwestern* were written off the books, as the company became obliterated by bankruptcy and incorporation of its property. The *Mobile and Ohio* was, however, in an amusing position. It was named in the act of 1875 and anxious to come to an agreement under it. It had, however, paid off so much of its indebtedness that a 25 per cent abatement would put the United States in the position of debtor. This the United States officials refused to permit, while the road refused to accept any smaller abatement, claiming that to do so would be to accept a penalty, where it deserved a reward for its relative promptness. Its debt, therefore, remained, with interest mounting at 7.3 per cent, until February 27, 1887, when, as a result of persistent efforts, it won its case, and Congress passed a joint resolution<sup>114</sup> allowing the secretary of war with the attorney-general to adjust its account by paying the road \$150,518.12.

Meantime the really good roads, which had paid their debts now a dozen years, pricked up their ears when they heard of the roads of the Tennessee region making such advantageous terms, and lobbied for a reopening of their accounts and a refund by special act; but did not secure it. The quartermaster-general carried the three delinquent roads

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<sup>111</sup> U. S. Statutes, 2d sess., 43d Cong., Ch. 108; this was limited to 10 roads named in the act.

<sup>112</sup> U. S. Statutes, 2d sess., 44th Cong., Ch. 119.

<sup>113</sup> Reports of Quartermaster-General, Sept. 30, 1880; they owed \$1,068,911.72. The summary of the others was \$6,552,676.49, property sold; total debt with interest and charges \$8,674,742.13, payments \$4,866,091.85, plus \$1,273,000 due under compromises; three accounts were dropped as insolvent; \$199,038.58 was restored to the *Western and Atlantic* of Georgia as a result of the act of March 3, 1877.

<sup>114</sup> Report of Quartermaster-General, Oct. 6, 1887, 310.

upon his books, computing the interest year by year, and asking congress to transfer the accounts to some department better equipped for handling them, until 1888, when their debts amounted to \$1,300,000. The next year his printed report does not mention them, and here I also let them rest.

The United States lost about \$3,000,000 by delinquencies. If Col. Crilly was right in saying that \$3,000,000 more was received by the policy adopted than would have been obtained by cash rates at auction, the account stands about even. The handling of the whole matter by the military department seems to have been honorable, and the fact that nearly all the delinquencies arose in the case of the Tennessee roads, which had been put in the best shape by the government, seems to indicate that politics was responsible for the financial disaster.

The whole episode, however, is far more than one of dollars and cents. It is far more, in fact, than the saving of the southern railroad companies. The thing of ultimate importance was the restoration of the southern railroad system. That restoration was accomplished by the actual construction work of the United States army, and by the credit furnished by the war department at a time when the fountains of southern credit were dry. Without this assistance, it is impossible to conceive that the roads could have performed their service to the community at the very time when such service was absolutely essential to the community.<sup>115</sup> When one considers on the one side the temper of the North towards the South, and on the other that this episode occurred just at a time when political and economic theory, religion, and American habits all united to sustain the individualistic theory at its highest pitch, it seems not great exaggeration

<sup>115</sup> The total value of government assistance cannot be given exactly. McCallum reported the total cost of construction and maintenance as \$42,462,142.55, property sold at about \$11,000,000. The proportion of the remaining \$31,462,142.55 going to the construction cannot be closely estimated, it must be remembered that military labor was not included in the total cost. Probably not less than \$20,000,000 was furnished by the government toward reconstruction, about \$7,000,000 as credit and the rest as a gift. It is extremely doubtful if all the southern roads were able to borrow \$5,000,000 in 1865.

to speak of the whole affair as a miracle. A striking illustration of the fact that in history no one idea entirely dominates, it renders it impossible to refer to the recovery of the South as the work of untrammelled individualism, it serves as an example of what Reconstruction in the South might have been had public attention been directed more to its economic aspects and less to the political, and in some slight way as a forecast of methods which may be employed tomorrow.

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THE MISINTERPRETATION OF LOCKE AS A  
FORMALIST IN EDUCATIONAL  
PHILOSOPHY

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## THE MISINTERPRETATION OF LOCKE AS A FORMALIST IN EDUCATIONAL PHILOSOPHY

### I.

What constitutes the significance of a thinker? Does it consist alone in the truths which he creates and hands on to posterity as a fixed and unchangeable inheritance? Or, does it rest as well in his capacity to stimulate his followers to advance into promised lands where he himself can plant no seed and consequently reap no harvests? Perhaps as science becomes less static and dogmatic we incline to recognize a man's importance more and more in terms of the problems which he sets for others to solve and less as regards his definite and tangible contribution to the fund of human knowledge. Hume in metaphysics is, of course, an illustration of this latter type. His destructive analysis of the metaphysical presuppositions of his day forced a right-about-face in theories of knowledge and a new attempt to describe the nature of the human understanding.

So, too, Herbart in his psychology. Herbart's ideas bear much the same relation to the concept of mind as do Hume's impressions of memory to an external world. Educational theory after the advent of Pestalozzi was synthesizing a mixture of philosophical conceptions. The human understanding which Kant reconstructed was a much more formidable and complex affair than that which Hume destroyed. But this in turn became identified with an organizing and self-developing will. This conception of the mind as a self-revealing entity harmonized well with Rousseau's doctrine of ripening instincts and capacities. And, consequently, in the writings of the Pestalozzians and, later, the Froebelians, we have clearly enunciated theories of inner development, and the business of the educator conceived to be more or less exclusively, as Pestalozzi puts it, that of assisting "the child's nature in the effort which it makes for its own development".

When Herbart and his followers challenged this conception of the mind and its faculties and attempted to substitute for it ideas and apperceptive masses of ideas, we had not so

much a concrete and permanent contribution to psychology as a confrontation of views supplying a basis for genuine experimental study of the nature of the mind. Such, at least, seems to have been its fruitful results.

In the 90's the conflict between the Pestalozzians and the Herbartians centered particularly upon the issue of formal discipline. The Herbartians, conscious that right makes might, appealed their case to the people and the controversy spread from technical monograph and books, from classroom and laboratory, from teachers' convention and professional magazine, to the great public forum of periodical literature.

I have made considerable effort to find a discussion of formal discipline prior to 1890. *Pool's Index* from 1887-1891 evidently contains nothing bearing upon formal discipline. The general heading, "Education," suffices to group all magazine articles from 1891-1900, but in 1902 the *Index* introduces a separate heading, "Discipline," to accommodate the stream of articles which was soon to become a veritable torrent. Indeed, if one wishes to inform himself upon the subject of formal discipline he will find even histories of education published prior to 1895 unable to satisfy his curiosity. He must wait either for histories written by the Herbartians or for histories written in the heat of the controversy over formal discipline.

When he reads these, however, he learns that John Locke furnished the philosophical basis for formal discipline. Now, the fact that John Locke who died in 1704 should formulate an educational theory which, despite his immediate and powerful influence upon the thought of his day, becomes articulate only in the nineteenth century, and comes to a focus mainly in the discussion of the last decade of that century, is sufficiently interesting to warrant an investigation.

## II.

But first, what is the theory of formal discipline? Monroe's *Encyclopedia of Education* states the theory as follows:

This expression has been used to indicate the general reaction upon the abilities of a student that is by many supposed to spring from the method of their study rather than from the content which is learned. We may distinguish, in the first place, between the information and the discipline that we may derive from the sub-

ject; and again between the specific discipline, or increased power of dealing with similar material, and the general discipline or increased ability to deal with any sort of material, the treatment of which involves somewhat the same general powers of the mind. Although formal discipline, a discipline derived from the form of the study rather than from its content, may be said to include both specific and general results, it is in connection with the latter especially that educational controversy has arisen.

Undoubtedly the strongest support that the idea of formal discipline has received in the past has come from the practically universal belief in certain abstract mental powers or faculties. . . . The belief in these various faculties does not of necessity carry with it the conception that they may be generally improved by exercise in specific directions. However, when emphasis is placed on the form of activity, and when it is assumed that all activities of a certain form depend upon a special inner power that exerts itself equally in connection with whatsoever material, any observed increase in its efficiency in dealing with this or that content will be naturally expected to appear when attention is directed to other content.<sup>1</sup>

Very frequently we find opponents of formal discipline condemning a formalist because he conceives the mind as a unity. Thus Ruediger complains:

Roark assumes a mind with a homogeneous unity something like that of a carpenter's tool, say a hatchet. The variety of the uses to which a hatchet can be put corresponds to the variety of the functions of the mind, and as the whole of the hatchet is always acting in any situation, so the whole of the mind is always acting. Improving such a homogeneous object for one function would naturally improve it about equally for all functions. But it is evident to the merest tyro in psychology, that the localization of function in the brain precludes any such unity of the mind.<sup>2</sup>

The literature bearing upon formal discipline reveals in the minds of the opposition, at least, a progressive clarification of issues. When in 1893 the translators of W. Rein's *Outlines of Pedagogics* used the expression "formal education," they believed it necessary to add an explanatory footnote. Rein had said:

<sup>1</sup> Paul Monroe, *A Cyclopedia of Education* (4 vol., New York, 1911), II, 642-644.

<sup>2</sup> Wm. C. Ruediger, *Principles of Education* (New York, 1909), 92-93. Recent discussions of the integrated activity of the nervous system would doubtless shake our "tyro's" assurance. Localization of function is by no means as generally accepted as it was ten years ago. The discussion centering about Spearman's two-factor theory indicates that psychologists are about ready to give a rehearing to the whole problem of the relation between the specific and the general functions of the cortex.

The fiction of "formal education" must be given up. In general there is no such education at all; there exist simply as many kinds of formal education as there are essentially different spheres of intellectual employment.<sup>3</sup>

Thereupon the translators enlighten the reader with a definition of "formal education."

"Formal education" or "formal culture" signifies about the same as the vague expression "discipline of the mind." Its extreme defendants claim that the pursuit of classic studies renders the intellect capable in any sphere whatever, i. e., it develops all the mental faculties.

The writers who rallied about Hinsdale after his assault upon formal discipline in the N. E. A. convention of 1894 very soon defined the term so clearly that benevolent neutrality became impossible. Thorndike, in his first edition of *Psychology*, puts the theory thus:

The mind is regarded as a machine of which the different faculties are parts. Experiences being thrown in at one end, perception perceives them, discrimination tells them apart, memory retains them, and so on. By training, the machine is made to work more quickly, efficiently, and economically with all sorts of experiences.<sup>4</sup>

And with the appearance of O'Shea's *Education as Adjustment*, in 1903, further attempts at a definition of formal discipline were superfluous.

According to this conception mind is so constituted that it can take any item of experience and use it for full value on every occasion without regard to the time, place, circumstances, or conditions under which it was gained. Mind receives impressions and makes such use and disposition of them as it may at any time will to do. It is not limited in present or future action to what it has done in the past; special exercise begets general power; good reasoning in cube root will give skill in reasoning in everything. Mind is self-contained, self-regulated, acting according to principles of its own without regard to the environments in which it is born or bred as it were. It can take particular experiences and use them in a general way in all kinds of situations.<sup>5</sup>

An examination of these definitions reveals the fact that formal discipline embodies several distinct conceptions. In the first place it holds to *faculties* of the mind,—to faculties of

<sup>3</sup> W. Rein, Trans. by C. C. and Ida Van Liew (London, 1893), 42.

<sup>4</sup> E. L. Thorndike, *Psychology* (New York, 1903), 87. Thorndike quotes from eight or more writers to substantiate his statements, but of these only three at best can be classed as psychologists and it is debatable to what degree the quotations, when restored to their context, illustrate his definition. In the quotation from Roark, if one emphasizes the word *rightly* in the statement, "rightly strengthening the memory necessitates the developing and training of the other powers" (and so throughout the quotation), he realizes how essentially ambiguous is the quotation rather than its formal character.

<sup>5</sup> M. V. O'Shea, *Education as Adjustment* (New York, 1903), 72-73.

perception, memory, reasoning and the like. In this respect there seem to be two classes of formalists,—if we can trust the statements of their opponents. The one views the faculties of the mind as entities or agents, after the manner of the mediaeval faculty psychology. Thorndike seems to have these in mind in his reference to the faculties as parts of a machine. And again we have the storage battery conception of the mind—a unity which functions in various ways—the whole draining into the parts and the parts into the whole. Ruediger's statement above illustrates this, and it is the conception singled out for attack by Hinsdale in his epoch making article in the *Educational Review*.<sup>6</sup> Secondly, formal discipline evidently contends that transfer of training is the supreme characteristic in learning. Our critics vary somewhat in their testimony as regards the extent to which formalists believe in transfer. Monroe states that formal disciplinarians unite "on the one point . . . that a particular activity or experience especially of an intellectual character, if well selected, produces a power or ability out of all proportion to the expenditure of energy therein."<sup>7</sup> But in the heat of controversy this becomes too conservative a position to oppose, and it is said the formalists advocate complete and equal transfer.<sup>8</sup> Thirdly, the formal disciplinarians are accused of being concerned more with the method of learning than with materials of education; although at times we hear them severely condemned because they advocate some one exclusive material for educational training, such as science, or the classics.

### III.

Since the appearance of Monroe's *Text Book in Education* in 1905 the preponderance of opinion holds John Locke responsible for a formulation of the theory of formal discipline. Graves, for example, speaks of Locke as "the first writer to advocate the doctrine of 'formal discipline.'"<sup>9</sup>

<sup>6</sup> B. A. Hinsdale, "The Dogma of Formal Discipline," *Educational Review*, VIII (1894), 128-142.

<sup>7</sup> Paul Monroe, *A Brief Course in the History of Education* (New York, 1907), 255.

<sup>8</sup> See O'Shea above. Also S. P. Duggan, *A Student's Text in the History of Education* (New York, 1916), 183-4.

<sup>9</sup> F. P. Graves, *History of Education During the Middle Ages and Transition*, (New York, 1914), 309.



Historians point to the formal character of the English public schools as indicating in part, at least, Locke's influence. Both Graves and Monroe admit that Locke was unsuccessful in his attack upon the public school curriculum but they both insist his influence tended to perpetuate disciplinary methods of teaching,<sup>10</sup> and, writes Monroe, "the subsequent emphasis which these schools laid upon the importance of physical and moral discipline, through games and sports and out-of-door life in general, with all the training which came from the struggle for leadership among boys thrown almost entirely upon their own responsibility for government and the regulation of their relations among themselves, was due to a considerable extent to the influence of Locke's *Thoughts*."<sup>11</sup>

Now, if actual training in leadership characterizes the discipline of the English schools whose main business it is to educate future leaders of English society, it would seem that the meaning of the word discipline is decidedly different in this connection from that usually ascribed to it by formal disciplinarians. Moreover, since both Graves and Monroe admit that, long before Locke wrote, the public schools had acquired the characteristics which even today distinguish them, it is at best an arbitrary procedure—out of the many possible factors influencing the situation—to select John Locke as the prime cause in determining either the prevailing mode of physical and moral education or the character of the schools in general.

How then shall we determine the nature of Locke's influence? One method, obviously, is to examine his writings and seek to reconstruct his philosophy, as free as possible from pre-conceived theories. This I wish to attempt in a subsequent study. A second method is to trace as well as we can the influence of Locke upon educational theory and practice. Educational institutions originating and developing contemporaneously with Locke and assuming their fundamental structure in the period of his dominance over thought might very well serve this purpose.

Such are the academies. While the English Academies date from the Protectorate the immediate stimulus for their development was the persecution of the Non-Conformists in the

<sup>10</sup> *Ibid.*, 172, 259.

<sup>11</sup> Paul Monroe, *A Text Book in the History of Education* (New York, 1905), 523-4.



reign of Charles II. With the exclusion of Non-Conformists from the public schools and universities "a high sense of duty to their fellow-sectarians, then, moved these ministers to offer the best substitute they could provide for the instruction of the higher schools."<sup>12</sup> The provisions of the Act of Uniformity and the Five Mile Act, says Brown "were only partially relaxed by the Toleration Act of 1689, and it was an uncertain, half-outlawed existence which was led by the schools of the ejected ministers." Nevertheless they continued and multiplied. Brown states we have information of more than thirty of these institutions which were opened in England prior to the American Revolution. "They are associated with the names of eminent men, some of them the very saints of English non-conformity, and others among the foremost churchmen of the time." From England the academies spread to America and rapidly became a determining influence in shaping the character of both secondary and higher educational institutions in the United States.

Now Locke seems to have exerted a profound effect upon the Academy. Brown writes:

Aside from theological doctrine, the real intellectual stimulus of the eighteenth century academies seems to have come largely from John Locke and Sir Isaac Newton; and while the thought of these master minds oftenest reached the schools through the writings of Watts and other popularizers, there are other instances in which we find the original masterpieces freely studied in the academies. The deeply religious character of both Locke and Newton, and the fact that, though churchmen, they were both earnest advocates of toleration, commended them to the men concerned with the building up of academies; and the wide intellectual hospitality which they themselves displayed and their success in enlarging the range of human thought and knowledge, appealed to academy men on the side of their intellectual tastes. So the influence of these two friends is found back of the academy movement in successive stages of its progress.<sup>13</sup>

In his *Sketch of an English School*, prepared as a suggestive course of study for the Philadelphia Academy opened in 1751, Benjamin Franklin includes Locke among the authors to be read in the sixth class. Other influences besides that of Locke undoubtedly led to the adoption of a catholic curriculum, but Locke's spirit approved the wide course of study characteristic of the academies. Although they retained Greek, Hebrew, and

<sup>12</sup> E. E. Brown, *The Making of Our Middle Schools* (New York, 1910), 162.

<sup>13</sup> Brown, *Middle Schools*, 166. See Chapters VIII-XI for account of the academies in England and the United States.

Latin (which were distinctly professional studies) the academies added natural philosophy, mathematics, geography, anatomy, shorthand, etc. Today we should condemn the work as superficially broad, but the aim at least was to furnish the understanding with ideas.

Isaac Watts, who attended Rowe's Academy from 1690 to 1694, was the most influential medium through whom Locke's theories were given practical application. Watts' *Improvement of the Mind* was written to serve much the same function as Locke's *Conduct of the Understanding*. It was designed to aid one in the management of the mind. We find in it the same practical suggestions as we do in the *Conduct* but it is better adapted for academy students; and it was a textbook in the academies for over a century.<sup>14</sup> It makes no claim to originality and it quite frankly popularizes and gives detailed application to the ideas of Locke. Consequently, an examination of the book may shed light upon the question, Was Locke interpreted by his immediate followers as a formalist in educational theory and practice?

Now we do find Watts occasionally referring to faculties and he deals specifically with the training of the powers of Observation, Memory, Attention, etc. It becomes important, therefore, to determine in what sense the term *faculty* is used. Do Watts and Locke conceive faculty in either of the two senses indicated above?

We have but to refer to the well-known section six in the chapter on Power in Locke's *Essay* as proof of the fact that Locke himself expressly warns people not to confuse faculties with the "notion of so many distinct agents within us."<sup>15</sup> And whether Locke and Watts believe in faculties in the second sense depends somewhat upon our interpretation of what is meant by mind as a "unit." Indeed, we cannot read many anti-formalists before we discover what appears to be a con-

<sup>14</sup> The edition used in connection with this paper was that of 1833, edited by "Joseph Emerson, Principal of the Female Seminary, Wethersfield, Conn.," published in Boston by Jenks, Palmer and Co.

<sup>15</sup> The first sentence of the *Conduct of Understanding* reads: "The last resort a man has recourse to, in the conduct of himself, is his understanding; for though we distinguish the faculties of the mind, and give the supreme command to the will, as to an agent, yet the truth is, the man who is the agent, determines himself to this or that voluntary action, upon some precedent knowledge, or appearance of knowledge in the understanding."

fusion as regards this issue. We have already witnessed Ruediger's summary dismissal of unity of mind on the ground that it conflicts with the theory of localization of function. On the other hand, Duggan, whose loyalty to anti-formalism is above suspicion, attacks formal discipline with the weapon of unity of function.

Psychology no longer holds that the mind is made up of a number of faculties, but that it functions as a unit, sometimes as thinking, sometimes as feeling, sometimes as doing, and that any mental experience, such as the study of a school subject, develops the whole mind, and not any faculty of it. In fact modern psychology affirms that there is no such faculty as memory, but the mind has "memories," e. g., of time, place, things; it denies that an ability to remember places is necessarily accompanied by an equal ability to remember faces and dates.<sup>16</sup>

Evidently it is possible for Locke to believe the mind is a unit and still not be a formal disciplinarian. And, if I were to hazard a guess, I should say that Duggan's conception of the mind is not much different from that which Locke affirms. Certain it is that both Watts and Locke believe it is the mind which functions now as memory, now as observation, now as reason, and this function or power so to behave is what they designate as faculty. Watts clearly indicates as regards observation and memory, for example, that he means a method of procedure.

Observation is the notice that we take of all occurrences in human life, whether they are sensible or intellectual, whether relating to persons or things, to ourselves or others.<sup>17</sup>

<sup>16</sup> Duggan, *History of Education*, 184.

<sup>17</sup> Watts, p. 37. Watts states that he means by observation what Locke does. Section 13 of the *Conduct of the Understanding* indicates clearly that Locke is not thinking of Observation in the abstract. Nor does it indicate a belief in transfer. "Particular matters of fact are the undoubted foundations on which our civil and natural knowledge is built: the benefit the understanding makes of them is to draw from them conclusions which may be as standing rules of knowledge and consequently of practice. The mind often makes not that benefit it should of the information it receives from the accounts of civil or natural historians, by being too forward or too slow in making observations on the particular facts recorded in them. . . .

. . . . Between these, those seem to do best who, taking material and useful hints, sometimes from single matters of fact, carry them in their minds to be judged of by what they shall find in history to confirm or reverse their imperfect observations, which may be established into rules fit to be relied upon when they are justified by a sufficient and wary induction of particulars. He that makes no such reflection on what he reads, only loads his mind with a rhapsody of tales, fit in winter nights for the entertainment of others; and he that will improve every matter of fact into a maxim, will abound in contrary observations that can be of no other use but to perplex and puzzle him if he compares them,

And,

We are said to remember anything, when the idea of it arises in the mind with a consciousness at the same time that we had this idea before. Our memory is our natural power of retaining what we learn and of recalling it on every occasion.<sup>18</sup>

Unity of mind thus conceived is one thing; it is another to conclude that the mind is a reservoir of energy, and to infer that "Once sharpen the intellectual axe and it is good for cutting any kind of wood; once develop mental muscle and it is good for lifting any kind of burden; once go through the gymnasium for the mind and you are ready for the tasks of life."<sup>19</sup> To attribute this latter view to Locke or Watts is to ignore completely their constant insistence upon wide and varied experience. Surely, if they believed any sort of material would store up power usable to an equal degree in other fields, they must have realized the absurdity of requiring, as they did, a variety of subject matter. Thus Watts writes in his rules relating to observation:

In order to furnish the mind with a rich variety of ideas, the laudable curiosity of young people should be indulged and gratified, rather than discouraged. . . . For this reason also, where time and fortune allow it, young people should be led into company at proper seasons, should be carried abroad, to see the fields, the woods, the rivers, the buildings, towers and cities, distant from their own dwellings. They should be entertained with the sight of strange birds, beasts, fishes, insects, vegetables, and productions both of nature and art of every kind, whether they are the products of their own or foreign nations. And, in due time, where Providence gives opportunity, they may travel under a wise inspector or tutor, to different parts of the world, for the same end, that they may bring home treasures of useful knowledge.

Among all these observations write down what is most remarkable and uncommon. Reserve these remarks in store for proper occasions and at proper seasons take a review of them.<sup>20</sup>

One may pick out passages at random from Locke's writings which emphasize two things: first, that subject matter

or else to misguide him if he gives himself up to the authority of that which for its novelty or for some other fancy best pleases him." And, they who read, "but not reflecting on it, not making to themselves observations from what they read, they are very little improved by all that crowd of particulars that either pass through or lodge themselves in their understandings. They dream on in a constant course of reading and cramming themselves; but not digesting anything, it produces nothing but a heap of crudities." See also Section 20 on Reading.

<sup>18</sup> *Ibid.*, 163. It is interesting to relate Watts' definition of memory with that of James. James writes on page 287 of the *Briefer Course*, "It is the knowledge of an event, or fact, of which meantime we have not been thinking, with the additional consciousness that we have thought or experienced it before."

<sup>19</sup> H. H. Horne, *The Psychological Principles of Education* (New York, 1908).

<sup>20</sup> Watts, pp. 54-55.

counts, and secondly, that subject matter counts only in terms of what one makes of it. I quote from the *Conduct of the Understanding* because that work supposedly best illustrates Locke's formalism:

In this we may see the reason why some men of study and thought, that reason right and are lovers of truth, do make no advances in their discoveries of it. Error and truth are uncertainly blended in their minds; their decisions are lame and defective, and they are very often mistaken in their judgments: the reason whereof is, they converse with but one sort of men, they read but one sort of books, they will not come in the hearing of but one sort of notions; the truth is, they canton out to themselves a little Goshen in the intellectual world, where light shines, and as they conclude, day blesses them; but the rest of that vast expansion they give up to night and darkness, and so avoid coming near it. They have a pretty traffic with known correspondents, in some little creek; within that they confine themselves, but will not venture out into the great ocean of knowledge, to survey the riches that nature hath stored other parts with, no less genuine, no less solid, no less useful than what has fallen to their lot, in the admired plenty and sufficiency of their own little spot, which to them contains whatsoever is good in the universe.<sup>21</sup>

Locke's discipline of the faculties is fairly represented in the following:

I do not say to be a good geographer that a man should visit every mountain, river, promontory, and creek upon the face of the earth, view the buildings and survey the land everywhere, as if he were going to make a purchase; but yet everyone must allow that he shall know a country better that makes often sallies into it and traverses up and down, than he that like a mill-horse goes still round in the same track, or keeps within the narrow bounds of a field or two that delight him. He that will enquire out the best books in every science, and inform himself of the most material authors of the several sects of philosophy and religion, will not find it an infinite work to acquaint himself with the sentiments of mankind concerning the most weighty and comprehensive subjects. Let him exercise freedom of his reason and understanding in such a latitude as this, and his mind will be strengthened, his capacity enlarged, his faculties improved; and the light which the remote and scattered parts of truth will give to one another will so assist his judgment, that he will seldom be widely out, or miss giving proof of a clear head and a comprehensive knowledge.

In point of fact, a correct interpretation of Locke must leave his conception of mind unclear. Evidently Locke, as Descartes before him, does not realize the ambiguities and difficulties involved in speaking of the mind. And Locke does not realize these difficulties because they develop only after the implications of his philosophy are made more explicit by subsequent philosophy. He seems to consider the mind as a unit, but this is not un-ambiguous. Thus, after condemning the conception of the will as a faculty, in the sense of a distinct

<sup>21</sup> This quotation as well as the next one is found in Section 3.



agent or power separate from the mind, he says, "It is not one power that operates on another; but it is the mind that operates, and exerts these powers; it is the agent that has powers, or is able to do."<sup>22</sup> But if we seek to arrive at a more precise and detailed notion of what Locke means by Mind, or Understanding, we encounter great difficulty.<sup>23</sup> Strict accuracy probably will require us to say that he leaves the nature of mind as a problem for his successors. Its existence was for him one of those natural assumptions of common discourse which we all make, but of whose vagueness we are not aware. Not until after Hume do we have an articulate expression of the nature of mind. Whatever faults we may find with the disciplinary conception of mind, it is at least definite and formulated in such a fashion that in consequence it becomes a subject of investigation and study.

What is Locke's relation to the second characteristic of formal discipline? Was he interpreted as advocating the doctrine that training one power leads to a transfer of energy or ability to another power? Do his followers believe that training memory in one respect increases memory ability in other particulars?

I think a critical reading of Locke and of Watts will convince us that the question of transfer simply does not occur to them. First, as to transfer from one power to another. Watts recognizes and constantly draws attention to the fact that memory and judgment are two quite distinct faculties. Memory is a basis for judgment, but "a person may have a very strong, capacious and retentive memory, where the judgment is very weak."<sup>24</sup> "There have been instances of others, who have had a very tolerable power of memory; yet their judgment has been of much superior degree, just and wise, solid and excellent." The cramming of memory with unorganized facts does not lead to good judgment. Watts believes the best judgments require a survey and comparison of data and "there can be no such comprehensive survey of many

<sup>22</sup> *Essay*, Book II, Ch. XXI, Sec. 8.

<sup>23</sup> Compare, for example, in Book II of the *Essay*, Ch. I, Sec. 23, Ch. VI, Sec. 2, Ch. VIII, Sec. 1, Ch. XXI, Sec. 5, and Ch. XXVII.

<sup>24</sup> Watts, 165-6. "It is meditation and studious thought, it is the exercise of your own reason and judgment upon all you read, that gives good sense even to the best genius and affords your understanding the truest improvement. A boy of strong memory may repeat a whole book of Euclid, yet be no geometer; for he may not be able to demonstrate one single theorem."



things without a tolerable degree of memory," but we are nowhere given to understand that he believes memory drill, for example, betters judgment, or reason. And, in this respect, he remains true to his master.<sup>25</sup>

It is true that Locke is frequently quoted as believing drill upon mathematics will improve judgment and reason upon all occasions. Thus Graves writes:<sup>26</sup>

Hence to train the mind to make proper discriminations, he declares in the *Conduct of the Understanding* that practice and discipline are necessary. "Would you have a man reason well, you must use him to it betimes, exercise his mind in observing the connection of ideas and following them in train." As to the means of effecting this mental discipline, Locke holds: "Nothing does this better than mathematics, which therefore I think should be taught all those who have the time and opportunity, *not so much to make them mathematicians as to make them reasonable creatures, that having got the way of reasoning, which that study necessarily brings the mind to, they may be able to transfer it to other parts of knowledge as they shall have occasion.*"<sup>27</sup>

Now, in so far as this may mean a method of procedure consciously acquired, it is not formal discipline. I return to this below. The main objection to the use of the quotation from Locke in this connection is the one which may be urged against all selections from Locke used to indicate his formalism. It is the objection that the quotations are taken out of their context. The section from which Graves quotes is Section 6 and deals with *Principles*. Locke has been insisting that unless we accustom ourselves from youth up to reason strictly and according to sound principles we shall not do so, nor shall we perceive the want of so doing. I wish now to quote from the paragraph preceding the quotation and the immediately succeeding paragraph. The man unaccustomed to exercising sound judgment, says Locke,<sup>28</sup>

... "sees no such defect in himself, but is satisfied that he carries on his designs well enough by his own reasoning, or at least should have done, had it not been for unlucky traverses not in his power. Thus, being content with this short and very imperfect use of his understanding, he never troubles himself to seek out methods of improving his mind, and lives all his life without

<sup>25</sup> For example, see the *Conduct of the Understanding*, Section 3 and also Section 20 on Reading.

<sup>26</sup> F. P. Graves, *A Student's History of Education* (New York, 1915), 180-1.

<sup>27</sup> Italics are mine.

<sup>28</sup> The quotation begins with paragraph six of Section 6 on Principles.

any notion of close reasoning in a continued connection of a long train of consequences from sure foundations, such as is requisite for the making out and clearing most of the speculative truths most men own to believe and are most concerned in. Not to mention here what I shall have occasion to insist on by and by more fully, viz., that in many cases it is not one series of consequences will serve the turn, but many different and opposite deductions must be examined and laid together before a man can come to make a right judgment of the point in question. What then can be expected from men that neither see the want of any such kind of reasoning as this; nor, if they do, know how to set about it, or could perform it? You may as well set a countryman, who scarce knows the figures and never cast up a sum of three particulars, to state a merchant's long account, and find the true balance of it.

What then should be done in the case? I answer, we should always remember what I said above, that the faculties of our souls are improved and made useful to us just after the same manner as our bodies are. *Would you have a man write or paint, dance or fence well, or perform any other manual operation dexterously and with ease; let him have ever so much vigour and activity, suppleness and address naturally, yet nobody expects this from him unless he has been used to it, and has employed time and pains in fashioning and forming his hand or outward parts to these motions. Just so is the mind; would you have a man reason well, you must use him to it sometimes, exercise his mind in observing the connection of ideas and following them in train. Nothing does this better than mathematics, which therefore I think should be taught to all those who have the time and opportunity, not so much to make them mathematicians as to make them reasonable creatures; for though we all call ourselves so because we are born to it if we please, yet we may truly say, nature gives us but the seeds of it; we are born to be, if we please, rational creatures, but it is use and exercise only that makes us so, and we are indeed so no further than industry and application has carried us. And, therefore, in ways of reasoning which men have not been used to, he that will observe the conclusions they take up must be satisfied they are not at all rational.*<sup>29</sup>

This has been the less taken notice of because every one in his private affairs uses some sort of reasoning or other enough to denominate him reasonable. But the mistake is that he that is found reasonable in one thing is concluded to be so in all, and to think or say otherwise is thought so unjust an affront and so senseless a censure that nobody ventures to do it. It looks like the degradation of a man below the dignity of his nature. It is true that he that reasons well in any one thing has a mind naturally capable of reasoning well in others, and to the same degree of strength and clearness, and possibly much greater, had his understanding been employed. But it is as true that he who can reason

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<sup>29</sup> Italics are mine.

well today about one sort of matters, cannot at all reason today about others, though perhaps a year hence he may. But wherever a man's rational faculty fails him, and will not serve him to reason, there we cannot say he is rational, how capable soever he may be by time and exercise to become so.

A formalist surely can derive little satisfaction from this passage.

If the reader will compare Graves' quotation with the passage I quote, he will notice that I omit that part of the sentence (as given by Graves) which follows the word *opportunity* and which reads, "not so much to make them mathematicians as to make them reasonable creatures, that having got the way of reasoning, which that study necessarily brings the mind to, they may be able to transfer it to other parts of knowledge as they shall have occasion." I omit this because Locke did not write it thus. The first part of the sentence is found in Section 6, as I give it, and the second, the part I have just quoted, is the second half of the first sentence of Section 7. The failure to indicate large omissions in Graves' text is not my carelessness. Perhaps a printer's error stands uncorrected. If so, it is very unfortunate, for the result is to give a student a completely false impression of Locke's meaning. I have traced this quotation back to Monroe's *Text Book*, published in 1905. In most histories (which appear to select their quotations from Monroe rather than from Locke) the signs of ellipsis occur, but none indicates that in the first portion of the quotation Locke is talking about faults in reasoning, and, in particular, about "a custom of taking up with principles that are not self-evident, and very often not so much as true," and in the second about mathematics as a general method of reasoning. Even though we should acquiesce in the questionable assumption that texts for students do not require the scientific care one employs in preparing tracts for members of his profession, an historian can hardly escape the moral obligation he owes both the author he interprets and the student whom he informs, of fairly representing the author's views.

And in this particular situation the results of misinterpretation are peculiarly significant. If we read the mutilated fragment, torn from Section 7, in the context which Graves and others supply, we naturally infer that Locke believes studying mathematics *as mathematics* gives one a power of reasoning

which he can transfer to any concrete case of reasoning; whereas Locke means in the first place that the mathematical *method of procedure* is superior to the scholastic method which, in his time, was accepted as a model in the schools, and secondly, he believes that the mathematical method of arranging argument is the most effective arrangement of our ideas when reasoning. Whatsoever we may say about mathematical procedure as a logical method, to advocate it as a model to follow in reasoning is not the same thing as to maintain that the study of mathematics as mathematics gives us a power of reasoning which we may transfer with advantage to any concrete situation.

But let us read the sentence in the original paragraph as Locke himself wrote it:

I have mentioned mathematics as a way to settle in the mind a habit of reasoning closely and in train; not that I think it necessary that all men should be deep mathematicians, but that, having got the way of reasoning which that study necessarily brings the mind to, they might be able to transfer it to other parts of knowledge as they shall have occasion. For in all sorts of reasoning every single argument should be managed as a mathematical demonstration, the connection and dependence of ideas should be followed, till the mind is brought to the source on which it bottoms, and observes the coherence all along, though in proofs of probability one such train is not enough to settle the judgment, as in demonstrative knowledge.<sup>30</sup>

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<sup>30</sup>The use which in turn Monroe, Ruediger, and Graves make of these quotations from Locke indicates a striking agreement of interpretation; an agreement not alone of thought, but of procedure as well. On page 519 of his *Text Book* (1905), Monroe writes: "The entire treatise," referring to the *Conduct*, "is devoted to a reiteration of the idea that intellectual education is a formation of habit of thought, through exercise and discipline.

"The faculties of our souls are improved and made useful to us just after the same manner as our bodies are. Would you have a man write or paint, dance or fence well, or perform any other manual operation dexterously and with ease; let him have ever so much vigor and activity, suppleness and address naturally, yet nobody expects this from him unless he has been used to it, and has employed time and pains in fashioning and forming his hand or outward parts to these motions. Just so is the mind; would you have a man reason well, you must use him to it betimes, exercise his mind in observing the connection of ideas and following them in train.'"

Monroe breaks the quotation at this point to observe, "Respecting the choice of subject matter appropriate to this end, he continues in the manner characteristic of this entire school of educational thought." And then, Monroe joins the two passages as follows:

"Nothing does this better than mathematics, which therefore I think should be taught to all those who have the time and opportunity, not so much to make them mathematicians as to make them reasonable creatures; for though we all call ourselves so because we are born to it if we please, yet we may truly say, nature gives us but the seeds

It seems then, we may conclude that Locke and his disciple, Watts, do not advocate the possibility of transfer from one power to another. What do they maintain as regards transfer within a given function? A careful reading of Watts' rules for improving the memory will reveal no evidence that Watts believes in training memory as such; that is, that memorizing one fact directly increases ability to memorize other facts. Indeed one may raise the question, Does the problem of transfer of training arise until philosophers become conscious that all minds are not alike? It is true that men speak of acquiring mental power by continuous application, but this is not necessarily transfer of training. They may mean general mental habits of work, or they may mean increased facility in a given field of work. Neither of these is transfer of training in the formal sense. In his well-known chapter on Imagination, William James<sup>31</sup> states that Fechner in 1860 was the first to

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of it; we are born to be, if we please, rational creatures, but it is use and exercise only that makes us so, and we are indeed so no further than industry and application has carried us. . . . I have mentioned mathematics as a way to settle in the mind a habit of reasoning closely and in train; not that I think it necessary that all men should be deep mathematicians, but that, having got the way of reasoning, which that study necessarily brings the mind to, they might be able to transfer it to other parts of knowledge as they shall have occasion."

In 1909 appears Ruediger's *Principles of Education* with a discussion of formal discipline similar to that of Monroe; similar to Monroe even in the selection of Fouillée, Huxley, and Locke as a background for his presentation. We are concerned alone with his treatment of Locke. Ruediger, as Monroe, quotes Locke on mathematics, but abbreviates Monroe's selection. Thus, Ruediger unites the two sections as follows: "Would you have a man reason well, you must use him to it betimes, exercise his mind in the connection of ideas and following them in train. Nothing does this better than mathematics which therefore I think should be taught to all those who have the time and opportunity, not so much to make them mathematicians as to make them reasonable creatures. . . . Not that I think it necessary that all men should be deep mathematicians, but that, having got the way of reasoning, which that study necessarily brings the mind to, they might be able to transfer it to other parts of knowledge as they shall have occasion."

The step which Graves makes is now easily taken. When he published in 1914 his *History of Education During the Middle Ages*, he omitted all indications of ellipsis; referred neither to Monroe nor to Ruediger, and inserted the quotation as I have given it, and attributed it to Locke as though the latter originally wrote it thus in the *Conduct*. And not only did he commit this error in 1914, but repeated it in his *Student's History of Education*, published in 1915.

Had Locke known that such treatment was to be accorded his philosophy, I can imagine him pleading much as does Shakespeare for his body:

"Good friend, for Jesus' sake forbear,  
To digg the dust enclosed heare."

<sup>31</sup> *Psychology*, II, 50.



draw attention to the fact that men differ in types of mental imagery. Prior to Fechner philosophers spoke as though there were a typical mind. Subsequent studies of Galton and others drew attention forcefully to the fact that men's minds differ. With this discovery, experimental psychology begins,<sup>32</sup> and then it is that we have speculations as regards transfer of training.

By this I do not imply that Watts and Locke did not recognize the importance of method of procedure. Indeed, perhaps it is a false identification of their emphasis upon acquiring an effective method of procedure with the quite different conception of formal discipline which accounts for a classification of Locke as a formalist. Watts has much to say as to method—but it is method as applied to concrete material. Consequently, to confine ourselves to memory,—Watts emphasizes the importance of attention as an aid to memory. “Due attention and diligence to understand things, we would commit to memory, is necessary, in order to make them take more effectual possession of the mind.”<sup>33</sup> Frequent reviews and careful repetitions are important, etc. Watts' discussion, like Locke's chapter on Retention in his *Essay*, surprises one with its modern tone.

As with memory, so with the other faculties: Locke undoubtedly intended what Watts continually insists upon—the necessity of developing a method for an economical use of the mind. He assumes that a consciousness of an efficient method of procedure arrived at by analyzing and studying an activity actually engaged in will improve that activity. Locke, as we have seen, believed the mathematical method represents the ideal procedure of the reasoning process, but we have to distinguish between an error in his description of the correct method of thinking—if he was in error—and the validity of his general position. If consciousness of successful method has no effect upon actual practice, a revolution would seem necessary in the courses of study of our educational training

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<sup>32</sup> For historical review of studies on mental correlations, see Spearman's study “General Intelligence,” *American Journal of Psychology*, XV (1904), 206 ff.

<sup>33</sup> Watts, pp. 173-175.



schools. Just as the logician<sup>34</sup> assumes that the scientist, who is conscious of scientific method, will benefit in the concrete application of it to a specific problem, so Watts and Locke believed we can better our procedure of inquiring and learning when we are conscious of the technique or method used in successful thinking. The logician as well as Locke and Watts may be wrong, but, again, we must not identify this position with the quite different belief in a transfer of power usable in any concrete situation.<sup>35</sup>

The nearest approach to transfer that we find in Watts is the common sense opinion so frequently expressed by Locke that we may work over our experiences and use them to solve varied problems. Thus he insists:

Every man, who pretends to the character of a scholar should attain some general idea of most or all the sciences; for there is a certain connection among the various parts of human knowledge, so that some notions borrowed from any one science, may assist our acquaintance with any other, either by way of explication, illustration, or proof; though there are some sciences conjoined by a much nearer affinity than others.<sup>36</sup>

And throughout his book Watts insists upon personal meditation and organization of the materials secured by reading, lecture, observation or what-not in order to be of value. "It is

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<sup>34</sup> Thus J. S. Mill writes: "We need not, therefore, seek any further for a solution of the question, so often agitated, respecting the utility of logic. If a science of logic exists, or is capable of existing, it must be useful. If there be rules to which every mind consciously or unconsciously conforms in every instance in which it infers rightly, there seems little necessity for discussing whether a person is more likely to observe those rules, when he knows the rules, than when he is unacquainted with them." *Logic*, Intro., Sec. 6.

<sup>35</sup> See John Dewey, "Method as General and as Individual," *Democracy and Education* (New York, 1916), 200.

<sup>36</sup> The artist studies the progress of his own attempts to see what succeeds and what fails. The assumption that there are no alternatives between following ready-made rules and trusting to native gifts, the inspiration of the moment and undirected "hard work," is contradicted by the procedure of every art.

"Such matters as knowledge of the past, of current technique, of materials, of the ways in which one's own best results are assured, supply the material for what may be called *general* method. There exists a cumulative body of fairly stable methods for reaching results, a body authorized by past experience and by intellectual analysis, which an individual ignores at his peril. As was pointed out in the discussion of habit-forming, there is always a danger that these methods will become mechanized and rigid, mastering an agent instead of being powers at command for his own ends. But it is also true that the innovator who achieves anything enduring, whose work is more than a passing sensation, utilizes classic methods more than may appear to himself or to his critics. He devotes them to new uses, and in so far transforms them."

<sup>37</sup> Watts, pp. 211-12.

our own meditation and the labor of our own thoughts that must form our judgment of things." Were Watts writing in 1903, after a reading of Thorndike's *Psychology*, he would undoubtedly have seized upon the suggestive figure, "identical elements," as illustrative of his dominant attitude in learning. His substitute term is meditation.

It is meditation, that conveys the notions and sentiments of others to ourselves, so as to make them properly our own. It is our own judgment upon them, as well as our memory of them, that makes them become our property. It does, as it were, concoct our intellectual food, and turns it into a part of ourselves; just as a man may call his limbs and his flesh his own, whether he borrowed the materials from the ox or the sheep, from the lark or the lobster; whether he derived it from corn or milk, the fruit of trees, or the herbs of the earth. It has now become one substance with himself.<sup>87</sup>

And nowhere can I discover that Watts believes the character of the food matters not, or, that the "one substance with himself" would be the same "substance" regardless of whether he partook of a well-balanced diet of proteids, carbohydrates, etc., or fed energetically, albeit economically, upon an exclusive diet of sawdust. In short, for both Locke and Watts knowledge results from two factors—sensation and reflection. The mind is not a *tabula rasa* for Locke. He used this expression in refuting innate ideas, but in refuting innate ideas he did not abandon innate powers.<sup>88</sup> Extreme partisans may emphasize exclusively one factor in knowledge to the neglect of the other, and, consequently, insist upon content alone or inner development primarily, but Locke considers one indispensable for the other.

We may therefore conclude, I think, that Locke's theories, as interpreted and his teachings as applied in the academies were quite the reverse of those associated with the dogma of formal discipline.

### III.

I have emphasized Locke's relation to the academies because they should reveal his influence upon educational practice and theory in England and America. His influence upon the continent is a separate study. Historians admit he influenced

<sup>87</sup> *Ibid.*, 47.

<sup>88</sup> Failure to distinguish between denying innate ideas and innate powers is the point in Thomas Burnet's criticism of Locke which particularly irritated the latter. See the excellent monograph, *The Moral and Political Philosophy of John Locke*, by S. P. Lamprecht (Columbia Univ. Press, 1919), 72.

Rousseau, but not in the way of formal discipline. Through his influence upon Basedow Locke directly affected the development of secular schools in Germany. Parker says of Locke:

Locke's influence on German pedagogy was very great. This influence was exerted not only through Rousseau's "Emile", but directly. Basedow (1723-1790), especially, was indebted to Locke and Commenius as two of the chief sources of his theories, and through Basedow many of these ideas found a place in the new schools which grew out of his propaganda in Germany. One of Basedow's co-laborers, Campe, (1746-1818), translated Locke's "Thoughts" into German. . . . The theories of Locke which Basedow and his associates organized most effectively in practice were, (1) those concerning physical health, freedom, exercise, etc., and (2) those which advocate making all instruction pleasant by basing it on children's games."<sup>89</sup>

Admittedly, then, Locke's influence upon European educational development was not of the character of formal discipline.

There is little value in seeking to determine Locke's influence upon educational theory after the writings of Rousseau and Pestalozzi. With the publication of the *Emile* in 1762 and the establishment of Pestalozzi's school at Burgdorff (1799), the determining of educational theory passed distinctly into other hands. In America Horace Mann plainly looked to Prussia as a model for the American public school system and Barnard, Woodbridge, Russell, and others used their journals as means of disseminating Pestalozzian ideas.

And yet it is in this literature that one finds constant reference to the discipline of the faculties. And here too we find a conception of the mind as a unit. Russell develops this view clearly in *Barnard's American Pedagogy*, which contains, in Part I, Russell's contribution on Intellectual Education. I do not wish to dwell upon this treatise because it connects with Pestalozzi and not with Locke. I do wish to point out, however, that Russell realized the term *faculties* was beginning to cause trouble. He writes:

From the imperfection of our language, in relation to topics strictly mental, or purely philosophical, the word *faculties* is unavoidably employed to represent the diversities in modes of action of the mind, which in itself, is, properly speaking, one and indivisible. But if we keep fully before us the etymological signification

<sup>89</sup> S. C. Parker, *The History of Modern Elementary Education* (New York, 1912), 159.

of the term *faculties* (resources, means, powers) we shall regard it but as a figurative expression, suggestive of the indefinitely diversified states, acts, operations, processes, powers, or modes of action, attributable to the mind—*itself a unit*.<sup>40</sup>

Evidently, Pestalozzi's emphasis upon cultivating the child's instincts and capacities was becoming subject to misinterpretation or abuse, and the unfoldment of one's powers, or the "development of the faculties" was already conceived in a formal manner. This is manifest in the report of the Oswego Board of Education in 1862.<sup>41</sup> Referring to Pestalozzi, it says, "He sought to develop and strengthen the faculties of the child." And "He wished the *art of observing* should be acquired. He thought *the thing perceived of less importance than the cultivation of the perceptive powers*." And, writes Parker, "As a consequence there was established the dreary grind of 'sense training.'"

It would seem then that it is Pestalozzi and not Locke who must bear responsibility for the theory of formal discipline, as expressed in popular literature. His theory of inner development and his own lapses into a purely formal procedure are more akin to the theory of formal discipline than anything we find in Locke.

To be sure, we can show that Pestalozzi drew from Rousseau and Rousseau acknowledged his indebtedness to Locke, but to infer that Locke should consequently assume responsibility for the theory of formal discipline which the Herbartians opposed,<sup>42</sup> is to argue after the manner of the old exercise in logic textbooks:

The child of Themistocles governed his mother; she governed her husband; he governed Athens; Athens, Greece; and Greece the world; therefore, the child of Themistocles governed the world.

If it is granted that Locke is not a formal disciplinarian, the question obviously arises, how came historians so to interpret him? The answer constitutes an interesting chapter in the history of education as yet unwritten.

<sup>40</sup> *American Pedagogy, Education, The School and the Teacher in American Literature* (Republished from Barnard's *American Journal of Education*) Edition of 1876. Russell was editor of the first American Journal of Education, (1826-31), taught elocution at Harvard and in other colleges and from 1849-59 conducted a private Pestalozzian "Normal Institute" in New Hampshire. "Intellectual Education" is compiled from professional lectures delivered at the Normal Institute in New Hampshire and the New England Normal Institute, Lancaster, Mass.

<sup>41</sup> Parker, p. 278.

<sup>42</sup> Ribot writes in his *La psychologie allemande contemporaine*, p. 4, "J'incline à croire, pourtant, qu'elles avaient été suggérées à Herbart moins par ses propres réflexions que par la lecture de Locke," quoted in John Adams' *The Herbartian Psychology Applied to Education* (Boston, 1899), 22.

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SCIENTIFIC DETERMINATION OF THE CONTENT  
OF THE ELEMENTARY SCHOOL  
COURSE IN READING

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MADISON  
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То  
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## CHAPTER I

### INTRODUCTORY STATEMENT

Elementary school reading has been criticized adversely on several grounds. (1) It has been said that the content is too limited in many courses of study. (2) It is said that material which is over-mature in content and form is attempted, thus entailing the expenditure of much time in analysis and explanation. It is alleged in this connection that a more careful grading would enable the pupils to read and to enjoy more material than is now read. (3) The over-maturity of content and the consequent need for explanation render silent reading difficult if not impossible. (4) Many selections are read and re-read or presented in different versions. This procedure, it is held, leads not only to a waste of time but also to a loss of interest of pupils. (5) It is said that many series of readers are compiled with a view to giving drill upon certain difficulties or exemplifying literary forms, and that readers thus organized provide much material which is undesirable for school use. Such criticisms together with a desire to remedy existing conditions led to the present investigation.

### PURPOSE OF THE PRESENT INVESTIGATION

The series of investigations reported in the following chapters was undertaken, therefore, for the purpose of studying the content of elementary school reading courses and with a view to formulating plans for improving it. This general purpose includes three minor ones, each of which will be considered in detail: first, the elimination of unsuitable reading material; second, the detection of superior reading material; and, third, the accurate placement of this superior material.

### THE OUTCOMES OF ELEMENTARY SCHOOL READING

Inasmuch as the course in reading is a part of the necessary training of students in all other school courses, instruction in the art of reading leads to a wide variety of outcomes. The

following formulation of outcomes is presented in anticipation of analyses of reading material now in use and the comments of teachers and pupils upon this material. This formulation is introduced here because the determination of the content itself depends largely upon the character of the desirable outcomes.

1. **Mastery of the Mechanics of Reading.** The mastery of the mechanics of reading includes (1) the automatization of rapid word recognition in oral and silent reading and the correct pronunciation of words occurring singly or in passages; (2) the development of expressional processes such as proper inflection, pitch, and tone; (3) the development of skill in different kinds of reading, as careful reading, cursory reading, and reading for purposes of reference; (4) the enlargement of the reading vocabulary so as to include the ability to read (a) informational non-literary material such as newspapers, popular science books, easy biography and travel, and first-year high school books, and (b) belles lettres.

2. **Ability in Interpretation.** Ability in interpretation includes the ability (1) to understand the content of passages read; (2) to analyze what is read; (3) to select the points of interest in reading matter; (4) to assume the author's point of view; and (5) to apply the content to situations other than those presented in the material read.

3. **The Development of General Culture.** This general outcome includes (1) the cultivation of ability to enjoy what is read; (2) training in further pursuance of thoughts suggested by the selections read; (3) an acquaintance with a variety of literature—(a) literary masterpieces to be enjoyed and to serve as standards of literary taste and (b) informational literature dealing with current affairs, scientific inventions, biography, etc.; and (4) practice in dealing with problems involving nature, interesting action, character study, morality, and other social matters.

#### MEANS FOR ATTAINING THE OUTCOMES

1. **Means for Attaining Mastery of the Mechanics of Reading.** In the lowest grades, readers have been care-

fully constructed so that each lesson presents only a few new words. Certain readers are criticized for restricting too greatly their content in order to ensure a simple vocabulary. Other readers, when offering more varied and interesting content, are criticized for presenting too many new words in each lesson. In order to avoid both difficulties, cumulative stories providing drill have more recently been used. Drill upon the expressional factors of reading greatly influenced the content of older readers; teachers even now refer to certain selections as contributing especially to the development of effective oral expression. The development of skill in silent reading requires that a large amount of material of different types be provided. A closely related demand calls for a variety of material for practice in careful reading, cursory reading, and reading for purposes of consultation.

**2. Means for Developing Ability in Interpretation.** The development of ability in interpretation requires content which presents problems, interesting situations, or points of view providing opportunities for the activity of pupils in selecting, analyzing, and making applications. The selection entitled *The King of the Golden River* is an example of material which offers training in these aspects of interpretation. When this story is used in the later grades, the activities of the characters are within the pupils' understanding, and, after analytical study, are found to exemplify the author's attitude toward such traits as selfishness, adventure, and kindness.

**3. Means for the Development of General Culture.** General culture requires (1) selections embodying qualities which add to pupils' interests; (2) selections having a wide range of application; (3) selections possessing literary merit; (4) selections containing interesting information; (5) selections in which there are opportunities to apply the content so as to rationalize emotions toward moral situations, and selections portraying social situations which foster (a) the discussion of such qualities as faithfulness, kindness, and sympathy, or (b) cooperative activities such as dramatization and constructive work, and (c) selections which suggest other interesting problems.

## CHAPTER II

### METHOD, PROCEDURE, AND CHARACTER OF THE DATA

Up to the present time, several methods of selecting subject matter for the elementary school course in reading have been followed. A method commonly used is that in which the compiler of a series of readers chooses the content upon the basis of personal interests and standards of value. A similar method is that in which a city superintendent in cooperation with one or more teachers selects material upon the basis of its apparent interest and worth and the teaching value as determined by ordinary experience in a single school or in a few schools. Another method is that employed by persons who have carefully tried out for a period of years a large number of reading selections with a view to selecting the most successful ones. The published statements accompanying the various readers now in use imply that one of these methods or a combination of them has been followed. Definite formulations of standards do not appear to have been made.

These empirical methods by their emphasis upon certain reading selections and the gradual rejection and elimination of others have led to a rough standardization of reading material. The criticisms at the beginning of Chapter I show, however, that limitations in the application of these methods exist. One limitation is the tendency to overemphasize subject matter, instead of giving sufficient consideration to the interests and maturity of pupils. Criticisms of the results of using these methods show that data from a large number of school systems are needed in order to formulate legitimate standards for choosing reading material. These data should indicate (1) the range of selections now in use; (2) the degree of success of these selections; and (3) the reasons for success or lack of success.



**The Method of This Investigation.** Two methods have been followed in this investigation: first, reactions have been obtained directly from teachers and pupils upon selections read in school; and, second, these reactions have been studied with a view to formulating plans for selecting and standardizing the material of the reading course. Instead of accepting the judgments of a few teachers or of experts more or less closely associated with teaching, we have thus drawn upon the experience of a representative number of teachers actively engaged in administering the reading course. From them we have learned what material is now in use and also their judgments of the success of this material.

**The Procedure.** The following outline shows the form of procedure followed in obtaining the reactions from teachers and pupils to reading matter:

1. Reactions to basal reading matter.
  - a. From teachers.

Questionnaire I: Analytical questions on the content of basal readers.

Questionnaire II: Classified lists of titles of selections sent to teachers for their comments.
  - b. From pupils.

Representative selections presented directly to pupils.

Pupils' interest in the selections measured by asking them to state whether they liked or disliked each selection and why.

Pupils' comprehension of the selections measured by questions on the selections read.
2. Reactions to new informational literature.
  - a. From teachers.

Questionnaire sent to teachers who had used this literature.
  - b. From pupils.

Informational selections presented to pupils with the request that they state whether they liked or disliked them and why.

#### CHARACTER OF THE DATA

(1) **Teachers' Judgments on Standard Selections. Questionnaire I.** An attempt was made so to present the first questionnaire that teachers would judge both the grading and the general character of the selections reported on. In order

to keep the teachers within the bounds of their actual experience and yet give them a fairly free hand in naming selections, they were asked to report on the readers most used in their grades. The questionnaire follows:

To the Teacher: Fill out the blanks carefully. Return to Superintendent's office by October 10th.

City..... School..... Grade.....  
Name the one reader used most frequently in your grade.....

Name selections in this reader which prove most successful for use in your grade as outlined below. Name the selection more than once if necessary.

1. Name two selections which pupils ask to re-read most. What reasons do they give for their choice?

a. Title..... Reason for choice.....  
b. Title..... Reason for choice.....

2. Name two selections which the pupils discuss most enthusiastically. Name the point of special interest in each.

a. Title..... Point of interest.....  
b. Title..... Point of interest.....

3. Name the selection most effective in stimulating pupils to do independent thinking. Give reason.

Title..... Reason.....

Name the selections in this reader proving most unsatisfactory for your use in your grade as outlined below.

1. Name two selections which your pupils say they dislike. What reasons do they give?

a. Title..... Reason for dislike.....  
b. Title..... Reason for dislike.....

2. Name two selections about which you are unable to provoke discussion. State cause of difficulty.

a. Title..... Cause of difficulty.....  
b. Title..... Cause of difficulty.....

3. Name one selection which the pupils cannot understand because the content is too mature.

4. Name the selection with which you secure poorest results. Why?

Title..... Reason for choice.....  
Signature.....

This questionnaire was sent in September, 1915, to cities the superintendents of which had previously indicated a willingness to cooperate in the investigation. These cities were selected as representative of conditions in the country as a

whole.<sup>1</sup> The superintendents were asked to distribute cards bearing the questionnaire to teachers upon whose judgment in such matters reliance could be placed. Replies were received from 2,253 teachers from 80 cities located in 25 states and the District of Columbia. Table I shows the number and distribution of teachers responding for each grade.

TABLE I. THE RESPONSES TO THE FIRST QUESTIONNAIRE.

THE NUMBER AND DISTRIBUTION OF CITIES FROM WHICH RESPONSES  
WERE RECEIVED AND OF TEACHERS WHO RESPONDED

Grades . . . . .	I	II	III	IV	V	VI	VII	VIII	Total
Cities . . . . .	40	75	72	80	67	55	70	68	80
Teachers . . .	184	361	327	376	327	185	261	232	2253

The following copy of one of the teachers' responses is a fair sample of the returns (Baldwin and Bender Reader, Grade V):

- Two selections which the pupils ask to re-read most.  
*The Sportsman*.—They like to play or act it.  
*The Finding of Mabon*.—Because it is about knights.
- Two selections which the pupils discuss most enthusiastically, together with the point of special interest in each.  
*The Story of Bucephalus*.—Alexander's success.  
*The Choosing of Greyfell*.—Testing the horses.

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1. The following cities took part in the first questionnaire: Akron, O.; Altoona, Pa.; Ann Arbor, Mich.; Athens, O.; Bangor, Me.; Battle Creek, Mich.; Brockton, Mass.; Burlington, Ia.; Butte, Mont.; Calumet, Mich.; Canton, O.; Cedar Rapids, Ia.; Charleston, S. C.; Cincinnati, O.; Cleveland, O.; Clinton, Mass.; Columbus, Ga.; Columbus, O.; Creston, Ia.; Davenport, Ia.; Decatur, Ill.; Des Moines, Ia.; Dubuque, Ia.; East Chicago, Ind.; Elgin, Ill.; Elmira, N. Y.; Erie, N. Y.; Evansville, Ind.; Flint, Mich.; Hammond, Ind.; Harrisburg, Pa.; Holland, Mich.; Huntington, Ind.; Hutchinson, Kans.; Iowa City, Ia.; Indiana Harbor, Ind.; Jackson, Mich.; Jamestown, N. Y.; Johnstown, Pa.; Joplin, Mo.; Kingston, N. Y.; Lafayette, Ind.; Lancaster, Pa.; Lansing, Mich.; La Salle, Ill.; Lewiston, Me.; Lexington, Ky.; Logansport, Ind.; Louisville, Ky.; Manchester, N. H.; Marquette, Mich.; Minneapolis, Minn.; Mishawaka, Ind.; Montclair, N. J.; Muncie, Ind.; Muskegon, Mich.; New Britain, Conn.; Newton, Mass.; Niagara Falls, N. Y.; North Platte, Neb.; Ogden, Utah; Phoenix, Ariz.; Port Huron, Mich.; Pueblo, Colo.; Reno, Nev.; Richmond, Ind.; Rochester, N. Y.; Saginaw, (East and West) Mich.; St. Joseph, Mo.; South Bend, Ind.; Spokane, Wash.; Springfield, O.; Springfield, Mass.; Syracuse, N. Y.; Topeka, Kans.; Troy, N. Y.; Vincennes, Ind.; Wallingford, Conn.; Washington, D. C.; and Wichita, Kans.

3. The selection which is most effective in stimulating independent thinking.

*Who Is the Happiest Man?*—Moral lessons must be reached by the children's own thought.

4. The selection which is most satisfactory from every point of view.

*The Finding of Mabon.*—Good moral lesson, interesting, and children like to play it.

1. Two selections which the pupils say they dislike and their reasons.

*Elizabeth Eliza's Piano.*—Stupid people.

*The Kettle and the Cricket.*—Not enough action.

2. Two selections about which discussion cannot be provoked.

*A Happy Boy and His Playmate.*—Too simple for this grade.

*The Kettle and the Cricket.*—Children do not understand it.

3. One selection which cannot be understood on account of over-maturity of thought.

Not any.

4. Name the selection with which you secure the poorest results.

*Eyes and No Eyes.*—Speeches too long and not enough character.

After the returns from the first questionnaire had been tabulated, it was found that many standard selections had been named by large numbers of teachers. The questions were so worded, however, that selections with outstanding good or bad qualities were most likely to be mentioned. Also, the mentioning of a selection depended upon its occurrence in a reader. Consequently, many standard selections were mentioned only a few times. In order to obtain more judgments on these standard selections, and judgments of many teachers of each of the successive grades on the same material, another questionnaire was prepared.

**Questionnaire II.** The second questionnaire, which was sent in February, 1917, was based largely on the results of the first. It consisted of titles of selections arranged in lists of about fifty for each of the eight grades. In order to obtain a uniform terminology, a descriptive list of desirable and undesirable terms used in the responses to Questionnaire I was included with the directions for judging the selections.

The choice of selections to be submitted in the second questionnaire was determined on the basis of several considera-

tions. Although close agreement existed in Questionnaire I upon some selections, there was either disagreement or a paucity of responses upon other widely used selections. The second questionnaire was planned with a view to obtaining (1) confirmatory evidence upon certain selections which the earlier questionnaire had indicated as either desirable or undesirable—the lists were not as representative of inferior as of superior selections; (2) more ample comments upon selections regarding which the responses to Questionnaire I were divided; and (3) judgments upon standard selections which were seldom or never mentioned in Questionnaire I. The descriptive list of qualities together with other directions was as follows:

#### DIRECTIONS FOR JUDGING READING SELECTIONS

1. On the following page is a list of selections which are widely used in your grade. The Committee on Economy of Time is desirous of securing the judgments of a large number of teachers with reference to each selection.

2. Rank, by numbering from one to fifteen in order of merit, the fifteen selections which you regard as being the best ones for use in your grade. Do this independently of the following work.

3. Below is a list of qualities which are to be used by you in giving your estimate of each of the selections. (You will need to write only the italicized part of the quality.)

4. Below each selection with which you are familiar write the names of qualities which you consider as being uppermost in the selection. Be as specific as possible. When you name more than one quality in describing a single selection name the most important quality *first*.

5. On the back of the next sheet make more detailed analyses of two selections with reference to your own grade. Use the selection which the pupils like best and the one which they dislike most. In these analyses use the following terms or other ones to designate the qualities which make the selections desirable or undesirable for your grade. Return the sheet by March 10. Keep this sheet.

#### DESIRABLE QUALITIES

1. *Interesting* because of *humor*; *variety* of style or of material; *dramatic*, that is, exciting; *interesting action*, though not exciting; *interesting repetition* as in tales for lower grades; portrayal of *home life* or *child life*; *personification*; *interesting people* described or taking part in the action; *interesting problems* for class discus-

sion; or because the story is *well told*. (State which of these qualities makes the selection interesting to your pupils.)

2. *Within grasp* because of the *familiar subject matter*, the *diction*, the *form of expression*, or *easy content*. (State which.)

3. A story of *adventure*, *knighthood*, *romance*, or *heroism*. (State which.)

4. A valuable lesson for your grade because it *cultivates expression* in oral reading; *enlarges vocabulary* by giving new words which are within grasp of the pupil; *stimulates thought* on account of *interesting information* or *character study*; presents *good moral teaching*; *imagination stimulated*. (State which.)

5. *Rhythm* or *rhyme* particularly *attractive* or because your pupils like *rhythm* or *rhyme*. (State which.)

6. *Festival element* as in Christmas selections.

7. *Nature*—the selection is good for use in nature study.

8. *Dramatization*—appropriate for dramatizing.

9. *Animal play* or *about animals*. (State which.)

10. *Fairy element*, *magic*, or *supernatural*. (State which.)

11. *Faithfulness*, *kindness*, or *sympathy* portrayed. (State which.)

#### UNDESIRABLE QUALITIES

1. *Too mature* because of *hard words*, *hard* or *unfamiliar subject matter*, *too abstract material*, *hard symbolism*. (State which.)

2. *Uninteresting* because it has *no story*; *too much repetition*; is *too long*; *not well told*; *unreal*; *too childish*; *monotonous*; because *poetry is disliked* by your pupils; pupils are *tired of it*; *scrappy*, not enough of the story is told; *characters disliked*; or *too didactic*. (State which.)

3. *Moral teaching bad* or *moral too obvious*. (State which.)

4. *Too sad* or *too depressing* for pupils to enjoy. (State which.)

The second questionnaire was sent to the cities which had cooperated in the first. Replies were received from 741 teachers in 49 cities located in 16 states and the District of Columbia. The following table shows the number and distribution of replies:

TABLE II. THE RESPONSES TO THE SECOND QUESTIONNAIRE

THE NUMBER AND DISTRIBUTION OF CITIES FROM WHICH RESPONSES WERE RECEIVED AND OF TEACHERS WHO RESPONDED

Grades . . . . .	I	II	III	IV	V	VI	VII	VIII	Total
Cities . . . . .	46	48	47	46	48	43	44	46	49
Teachers . . . .	95	98	93	93	100	87	87	88	741



In spite of the heavy demands made by this questionnaire, it was carefully treated by the teachers who responded. A large number of teachers copied the lists of selections to give themselves space for detailed comments on each selection. The most elaborate report consisted of eighteen pages of typewritten material; the briefest contained short comments on at least ten or twelve selections. The following copy of one of the reports shows the character of the most common type of responses (Grade II):

SELECTIONS	COMMENTS
<i>Lambikin</i>	Dramatic, interesting repetition, personification.
<i>Robinson Crusoe</i>	Interesting problems, imagination, adventure, nature.
<i>Hans in Luck</i>	Interesting humor, cultivates expression.
<i>Town Mouse and Field Mouse</i>	Within grasp, familiar subject matter, about animals.
<i>Piping Down the Valleys Wild</i>	Hard symbolism.
<i>The Hare and the Tortoise</i>	Dramatization, good morals.
<i>Sleeping Beauty</i>	Imagination, nature.
<i>Who Has Seen the Wind?</i>	Easy content, rhythm.
<i>I Saw a Ship a-Sailing</i>	Child life, cultivates expression.
<i>Phaethon</i>	Imagination, good moral, character study.
<i>The Bell of Atri</i>	Cultivates expression, kindness, good moral.
<i>The Three Bears</i>	Personification, dramatization, imagination.
<i>Little Red Riding Hood</i>	Dramatic, personification, imagination.
<i>The Magpie's Lesson</i>	About nature, cultivates expression.
<i>Dick Whittington and His Cat</i>	Adventure, character study, good moral.
<i>The Three Little Pigs</i>	Dramatic, interesting repetition, personification, dramatization.
<i>Androclus and the Lion</i>	Stimulates thought, interesting information, faithfulness, about animals.
<i>East o' the Sun and West o' the Moon</i>	Fairy element, good moral.
<i>The Old Woman Who Found a Sixpence</i>	Interesting repetition, interesting action, easy content.

<i>The Flag</i>	Dramatic, rhythm.
<i>The Bremen Band</i>	Personification, dramatization.
<i>Kluge Else</i>	
<i>Titty Mouse and Tatty Mouse</i>	Interesting repetition.
<i>The Fox and the Crow</i>	Personification, good moral.
<i>The Pied Piper of Hamelin</i>	Supernatural, imagination, dramatization.
<i>Henny Penny</i>	Interesting repetition, personification, dramatization.
<i>The Swing</i> (Stevenson)	Child life, interesting action, rhythm.
<i>My Shadow</i>	Child life, cultivates expression, rhythm.
<i>The Ugly Duckling</i>	Good moral, interesting action.
<i>Sweet and Low</i>	Home life, imagination, rhythm.
<i>The Village Blacksmith</i>	Too mature—hard words.
<i>How Mrs. White Hen Helped Rose</i>	Personification, cultivates expression, good moral.
<i>Cinderella</i>	Fairy element, imagination, good moral.
<i>Belling the Cat</i>	Personification, dramatic, cultivates expression.
<i>The Little Red Hen</i>	Personification, dramatization.
<i>Three Billy Goats Gruff</i>	Personification, dramatization, cultivates expression.
<i>Billy Binks</i>	Too mature—hard words.
<i>The Golden Touch</i>	Magic.
<i>Aladdin and the Wonderful Lamp</i>	Magic, imagination.
<i>The Ant and the Grasshopper</i>	Nature, good moral.
<i>The Doll's Thanksgiving Dinner</i>	Festival element, child life, kindness.

In addition to such carefully written responses as the foregoing, further evidence of the teachers' care is found in the more detailed analyses of the best and the poorest selections which were made. Two of the most frequently mentioned selections from Grade III were analyzed as follows:

*Robinson Crusoe* was the first choice of most third-grade children. Its charm lies perhaps in its vivid realism. The child lives and feels Robinson Crusoe's struggles and triumphs—his process of getting fire, shelter, food, and clothing forms a romance of interest and thrill to every child.

The story serves as a stepping stone to geography and world history. It correlates with the handwork a third grade child can do—

weaving, modeling, and drawing. It can be accompanied by other literature that emphasizes the spirit of adventure, as Sinbad the Sailor, Columbus, and Hiawatha.—literature with more artistic value perhaps than Defoe's homely, forceful style. It opens an easy avenue of self-expression in language work.

It is easy reading—within the word-concept and imaginative grasp of the child.

*Daffy-down-dilly* is liked the least by most pupils. It is old-fashioned, too long, and too didactic. The characters are uninteresting and disagreeable. It is not childlike, presenting rather an adult's viewpoint. Instead of emphasizing the joy of work, it presents a depressing, joy-killing theory that toil is found even in pleasure—and that to the children of the third grade.

The care with which both questionnaires were treated together with the large number of responses adds greatly to the weight of the judgments. They were apparently from the more careful teachers of representative cities. Consequently, there seem to be adequate data upon these representative selections so far as the teachers are concerned.

(2) *Pupils' Reactions to Standard Selections.* In order to get a different kind of data, the third part of this study was made in 1918 and 1919. This consisted of the presentation of selections directly to pupils and was carried on in four different schools. These schools were chosen because of the differences in the character of the pupils. One is the University of Chicago Elementary School (School U); the other three are public schools in Evanston, Illinois (Schools A, B, and C). Table III shows the number and distribution of pupils who participated. The Evanston schools are located in three very different neighborhoods and may be classified fairly accurately as follows: School A, attended by pupils of the middle class; School B, by pupils having access to home libraries, opportunities for wholesome recreation, and ample financial means; and School C, by pupils of the poorer classes with many foreigners and negroes recently from the South. Pupils of Grades I and II were not used in this part of the investigation because of their inability to write their reactions. References to the schools throughout this study will be by letter as just designated.

TABLE III

THE DISTRIBUTION OF PUPILS IN THE FOUR SCHOOLS WHICH COOPERATED IN THE STUDY OF READING MATERIAL

Schools		Number of Pupils per Grade						
Grades -----		III	IV	V	VI	VII	VIII	IX
Evanston Public----	A	56	42	-----	-----	44	73	215
	B	18	32	-----	-----	-----	-----	50
	C	18	36	38	37	26	17	172
University of Chicago Elementary School -----	U	-----	-----	30	28	34	-----	92
Total for all grades-----		92	110	68	65	104	90	529

The selections presented to the 529 pupils were chosen because of their use in nearly every city responding to either questionnaire, the variety of appeals to children as stated by teachers, and their common use in more than one grade. In order to provide a uniform appearance of these representative selections, they were printed in seventy-page booklets. With the exception of the selection entitled *Douglas and Randolph*, the prose selections were re-adapted for this use. In making these adaptations, the different versions were carefully studied to enable the writer to render the selections in a form closely similar to the versions found in standard readers.

Before presenting these selections to the pupils, the teachers were consulted and told the nature of the problem and of the work already done. It was explained that a sufficient number of teachers' judgments had been obtained and that at this time only pupils' judgments were desired.

The following form shows the names of the selections used and the grades in which the pupils read them:

SELECTIONS	Grades in which used are checked (v)						
	III	IV	V	VI	VII	VIII	
<i>The Leak in the Dike</i> .....	v	v	v	-	-	-	
<i>Excelsior</i> .....	v	v	v	v	v	v	
<i>Phaethon</i> .....	v	v	v	-	-	-	
<i>The Village Blacksmith</i> .....	v	v	v	v	-	-	
<i>The Ugly Duckling</i> .....	v	v	v	-	-	-	
<i>The Barefoot Boy</i> .....	-	v	v	v	v	v	

<i>Dick Whittington and His Cat</i> .....	v	v	v	v	-	-
<i>Abou Ben Adhem</i> .....	-	-	v	v	v	v
<i>Cosette</i> .....	v	v	v	-	-	-
<i>The Wreck of the Hesperus</i> .....	v	v	v	v	v	v
<i>Aladdin and His Wonderful Lamp</i> .....	v	v	v	v	v	-
<i>Paul Revere's Ride</i> .....	-	v	v	v	v	v
<i>The Wonderful One-hoss Shay</i> .....	-	-	-	v	v	v
<i>The Gettysburg Address</i> .....	-	-	-	v	v	v
<i>The Chambered Nautilus</i> .....	-	-	-	v	v	v
<i>Douglas and Randolph</i> .....	-	-	v	v	v	v
<i>Baron Münchhausen Tales</i> .....	-	-	v	v	v	v
<i>Marco Bozzaris</i> .....	-	-	-	v	v	v
<i>Christmas at the Cratchits'</i> .....	-	v	v	v	v	v
<i>What Constitutes a State</i> .....	-	-	-	v	v	v

The following copy of the directions to teachers shows the manner of conducting this portion of the investigation:

#### PLAN FOR THE STUDY OF READING SELECTIONS

This study of reading selections is being made in order to supplement the judgments of a large number of teachers who have already reported upon them. It is desired, therefore, that the real likes and dislikes of pupils be shown in the responses. Before beginning their reading, the children should have the general plan and purpose told to them in words about as follows:

One of the teachers at Northwestern University is anxious to find out just what kind of stories and poems children like. He has already asked many hundreds of teachers about this. The teachers made out their lists from the readers which the children used. There may be many others which were not included, but these could not be judged because they were not in the readers which the children used.

This teacher from Northwestern has gathered together the selections receiving a large number of votes and had them printed in this little volume.

You may each have a copy to read over. Perhaps you may recall having read some of them before. If so, re-read to refresh your memory. Later you may tell on paper which ones you like best and why; also which ones you like least and why. Be very frank in expressing your opinions, because you can help most by describing fully and truly your likes and dislikes.

1. Ask pupils to read the selections for their grade without aid or discussion. All reading is to be done at school.

2. After the reading has been done, ask the pupils to state on paper whether they liked or disliked each of the selections and *why*. Ask them to be as definite in replies as possible. The pupils should have their books for this work.

3. Have a brief class discussion of the selections or parts of selections which seem most in need of such discussion.

4. Ask the pupils to write responses to the mimeographed questions. Ask them to reply as briefly as possible. After the pupils finish their replies to each of the selections, ask them to state again whether or not they liked the selection.

The pupils should have the books before them for all of the exercises. All of the work is to be done in school. If they want to use dictionaries of their own accord allow them to do so. The purpose here is merely to find out what the pupils can do with these selections. In the class discussions as directed under 3, try to avoid influencing the pupils' judgments.

As shown by the copy of directions to teachers, the pupils passed judgment on the selections as soon as they read them silently. Following this first judgment, there was a short discussion period devoted to questions which the pupils raised; that is, teachers were asked to take as little part as possible in this discussion. The pupils then, with the booklets open before them, wrote their answers to comprehension questions upon the selections.

Following is a copy of the judgments of a girl of Grade VII in School A. It is a fair sample of the responses of that school. The pupils of School U gave longer responses; those of School C, shorter.

SELECTIONS	COMMENTS
<i>Excelsior</i>	Dislike. Because for two reasons, first I don't understand it, second its object is not the kind I like.
<i>The Barefoot Boy</i>	Like it because it's full of fun and country life.
<i>About Ben Adhem</i>	Dislike it because I don't understand it.
<i>The Wreck of the Hesperus</i>	Like because it shows daring and is exciting.
<i>Aladdin</i>	Like because it's different and shows selfishness and unselfishness.
<i>Paul Revere's Ride</i>	Like because it's exciting and a good turn.
<i>The One-hoss Shay</i>	Like because it's funny and interesting.
<i>The Gettysburg Address</i>	Dislike because I've heard it so many times and it is uninteresting.
<i>The Chambered Nautilus</i>	Like because it shows beauty and describes well.



<i>Douglas and Randolph</i>	Like because it shows fighting in it and shows bravery and how certain people stick to a thing.
<i>Baron Münchhausen</i>	Like because it shows when people brag they get beaten.
<i>Christmas at the Cratchits'</i>	Dislike because I've heard it so many times and is same as many other stories.
<i>What Constitutes a State</i>	Dislike because not any real object.

The lists of questions used to test comprehension were arranged so that for every four or five relatively easy questions there was one of greater difficulty. This plan served to keep the percentages for individual pupils about the same for the long lists of questions as for the short ones. The answers were marked either "Right" or "Wrong." Although the teachers were asked to have their pupils state again when answering the questions whether or not they liked the selections, only one class as a whole did this.

### INFORMATIONAL READING SELECTIONS

Up to this point in the investigation, all the judgments and tests dealt with traditional literature. As a result, very few informational selections were mentioned. Instead, the selections mentioned were characterized by teachers as possessing literary style and general appeal. Present-day interest in informational material led to an inquiry into pupils' interests in such literature and the results attained by using it.

The material in this test was drawn from a set of informational selections published by the United States Bureau of Education in the Community and National Life Series.<sup>2</sup> Fifty-nine teachers who had used the selections in this form were asked to state their opinions of them. The following directions were

<sup>2</sup> Judd, C. H., and Marshall, L. C.: Community Leaflet No. 18, March 1, 1918. Bureau of Education, Washington, D. C. The selections used are the following: *Before Coins were Made*, by Katherine McLaughlin; *Minting of Coins and Paper Money*, by Ruth Reticker; and *Money in the Community and the Home*, by Edwin A. Kirkpatrick.

printed on the form sent to them in 1919. Copies of the form were distributed to teachers by their superintendents who, after time had been allowed for filling in the blanks, collected and returned them.

DIRECTIONS SENT TO TEACHERS FOR JUDGMENTS ON  
INFORMATIONAL SELECTIONS OF THE COMMUNITY  
LIFE SERIES

Please indicate in the columns headed "Grade Actually Tried" the grade or grades where you personally used the lesson named in the preceding column. (For this purpose call the first grade of the high school the ninth grade, and so on.)

Rate the exercise in the column headed "Degree of Success" so as to indicate your judgment of how the particular lesson succeeded, using letters defined as follows:

A=highly satisfactory and understood by pupils.

B=usable but not excellent.

C=poor.

D=complete failure.

In the column headed "Grade Recommended," put a figure giving your judgment as to grade for which the lesson is appropriate.

In the column for remarks, indicate in a word or two for each exercise which you rate A or D the chief characteristics which contributed to the result. Notes on others will also be welcome.

The method of using this material with the eighty-two pupils of School A who reported on it was the same as for the standard selections except that the comprehension questions were omitted. The reactions to this literature will be treated in detail in Chapter VII.

SUMMARY

This chapter calls attention to earlier methods of selecting content and presents criticisms of these methods. The method and procedure of the present investigation were devised to derive facts from the experience of teachers and pupils in many school systems. The representative character of the schools reporting and the care with which the responses were written lead to the belief that the data give a reliable index of the attitude of the teachers of this country toward the content of the reading course. This statement is supported also by the fact that the teachers who reported were highly selected. In the

first place, the superintendents of a large number of schools, though not necessarily the best ones, were asked to cooperate in the investigation. To this request, only superintendents who were willing to add to their regular duties are likely to have responded. Their interest in the problem is thus indicated. Later, when copies of the questionnaires were sent to the superintendents, the request was made that the copies be distributed to teachers "upon whose judgment in such matters reliance could be placed." Besides enlisting able teachers, this plan tended still further to eliminate persons who might have been uninterested in the investigation. The responses of the pupils who took direct part in the investigation were obtained through the cooperation of teachers who volunteered to undertake the work. The frank, serious statements of the pupils indicate that they also made their judgments carefully.

## CHAPTER III

### GENERAL RESULTS OF THE FIRST AND SECOND QUESTIONNAIRES—WIDELY USED READING SELECTIONS

The purpose of this chapter is to show the range of reading material now in use. In carrying out this purpose, samplings are made of the selections mentioned by teachers in the responses to the questionnaires, together with a summary of the comments made.

#### THE RANGE OF SELECTIONS MENTIONED IN QUESTIONNAIRES I AND II

##### RESPONSES TO QUESTIONNAIRE I

**The Number of Selections Catalogued from Teachers' Responses to Questionnaire I.** In Questionnaire I selections were catalogued from readers some of which are widely used while others are used only within a single state. Consequently, many of the selections mentioned are found only in the responses from a single city or state while others recur in reports from widely separated cities. That is, the range of widely used selections for each of the grades is about as great as the range of widely used readers permits.

Table IV shows the number of responses received per selection in Questionnaire I. It shows that in Grade I, 630 selections were mentioned less than 5 times each; that 25 were mentioned more than 5 times but less than 10 times, and so on. Table V contains lists of the selections mentioned 10 or more times in the first questionnaire and the percentages of favorable responses.

**The Agreement Shown Between Teachers' Evaluations of Reading Selections.** Table V shows that close agreement regarding the value of much reading matter exists among those who administer it. For example, *The Gingerbread Boy* was reported 33 times and favorably in each case, while *Rose*,

TABLE IV

THE FREQUENCIES WITH WHICH DIFFERENT SELECTIONS WERE MENTIONED IN EACH GRADE IN QUESTIONNAIRE I

Number of times Various Selections Were Mentioned	The Number of Selections thus Mentioned							
	Grades							
	I	II	III	IV	V	VI	VII	VIII
1-4	659	961	907	618	824	461	612	581
5-9	23	16	20	7	36	25	26	14
10-19	17	26	28	52	23	25	29	14
20-29	3	14	12	14	6	4	7	3
30-39	2	3	3	7	7	2	2	2
40-49	-----	4	2	1	2	-----	-----	-----
50-59	-----	1	1	2	1	1	1	3
60-100	-----	2	1	1	2	-----	2	2
Total-----	677	1,032	913	766	901	518	1,006	825
Number mentioned five or more times---	17	25	106	148	77	57	66	22

*Daisy*, and *Lily* was reported 15 times and in all cases unfavorably. Similar cases are found in each of the grade lists: some selections are favored by all teachers reporting them while others are disliked by all. Still other selections, as *The Vision of Sir Launfal* in Grade VIII, are variously valued: this selection is reported as the best in the readers used by 15 teachers and the poorest by 6 (Ellis and Cyr readers, respectively). In all grades, however, nearly every selection reported was either favored by 85 per cent or more of the teachers or judged adversely by 85 per cent or more.

Teachers' Classifications of Reading Selections in Questionnaire I. The analytical questions of the first questionnaire led teachers to classify roughly many of the selections which they mentioned. As examples of teachers' classifications, *The Gingerbread Boy* is mentioned by 20 teachers as one which pupils often ask to re-read, and *Santa Claus* by 13 and 12 teachers, respectively, as one which pupils frequently ask to re-read and as one which pupils discuss freely. The third question, which asked for the names of selections which provoke independent thought, led teachers frequently to mention selections which pupils also ask to re-read. Of the 38 selec-

tions referred to 5 or more times as valuable for stimulating independent thought, 21 are also mentioned as often or oftener because pupils ask to re-read them. Furthermore, of these 38 selections, 24 are mentioned 5 times or more because pupils discuss them enthusiastically. These, together with additional similar cases, show that selections which are sufficiently outstanding to be frequently mentioned for the cultivation of independent thought are usually valued also for other reasons.

Classifications of undesirable selections were made in the responses to the questions asking for the names of selections which pupils say they dislike and about which teachers can arouse no discussion. An example of such cases is the fourth-

TABLE V

LIST OF SELECTIONS MENTIONED TEN OR MORE TIMES IN QUESTIONNAIRE I AND THE PERCENTAGE OF FAVORABLE RESPONSES

GRADE I							
Selections	Frequency	Pct. favorable		Selections	Frequency	Pct. favorable	
<i>Gingerbread Boy</i> .....	33	100		<i>My Dream</i> .....	10	100	
<i>Little Red Hen</i> .....	33	100		<i>Santa Claus</i> .....	28	96	
<i>Little Boy Blue</i> .....	22	100		<i>The Caterpillar</i> .....	30	93	
<i>Three Little Pigs</i> .....	17	100		<i>The Bee</i> .....	18	67	
<i>Christmas Story</i> .....	14	100		<i>The Star</i> .....	11	46	
<i>Cinderella</i> .....	14	100		<i>Clever Jackal</i> .....	11	27	
<i>The Squirrels</i> .....	13	100		<i>Old Woman and Pig</i> ....	11	27	
<i>Playing in Snow</i> .....	12	100		<i>The White Lily</i> .....	17	12	
<i>Who Is It? Santa Claus?</i>	10	100		<i>Rose, Daisy, and Lily</i> ..	15	0	
<i>Christmas Morning</i> ....	10	100					
GRADE II							
<i>How Mrs. White Hen</i>				<i>Queer Chickens</i> .....	15	80	
<i>Helped Rose</i> .....	38	100		<i>Drowning of Mr. Leg-</i>			
<i>Mr. and Mrs. Leghorn to</i>				<i>horn</i> .....	16	75	
<i>the Rescue</i> .....	20	100		<i>The Proud Crow</i> .....	11	73	
<i>Cinderella</i> .....	20	100		<i>James Watt</i> .....	27	63	
<i>Epaminondas and His</i>				<i>The Cat and the Birds</i> ..	13	62	
<i>Aunt</i> .....	20	100		<i>The Bell of Atri</i> .....	15	60	
<i>Dick Whittington and</i>				<i>The Starving of Mrs.</i>			
<i>His Cat</i> .....	17	100		<i>Leghorn</i> .....	14	57	
<i>The Robbers</i> .....	16	100		<i>Who Is the Strongest?</i> ..	35	49	
<i>Old Woman and Her Six-</i>				<i>How the Bean Got Its</i>			
<i>pence</i> .....	14	100		<i>Seam</i> .....	20	45	



## GENERAL RESULTS FIRST, SECOND QUESTIONNAIRES 27

TABLE V—Continued

Selections	Fre- quency	Pct. favor- able	Selections	Fre- quency	Pct. favor- able
<i>Columbus</i> .....	13	100	<i>The Giant of Brandbeg-</i>		
<i>Three Little Pigs</i> .....	12	100	<i>gar's Hall</i> .....	24	44
<i>Ruff's Adventure</i> .....	12	100	<i>Belling the Cat</i> .....	47	40
<i>Three Billy Goats</i> .....	12	100	<i>The Magpie's Lesson</i> ...	62	37
<i>Clever Jackal</i> .....	12	100	<i>The Foolish Weather-</i>		
<i>Nathan and the Bear</i> ...	11	100	<i>cock</i> .....	20	35
<i>The Little Steam Engine</i>	10	100	<i>Sinbad the Sailor</i> .....	20	25
<i>The Three Bears</i> .....	52	98	<i>Jackal and Lion</i> .....	12	25
<i>Lambikin</i> .....	42	98	<i>Why Ravens Croak</i> ....	10	20
<i>The Bremen Band</i> .....	40	98	<i>The Leaf's Journey</i> ....	29	11
<i>Robinson Crusoe</i> .....	34	97	<i>Who Became King</i> ....	10	10
<i>The Pied Piper</i> .....	34	94	<i>Victor and the Sea-Gull</i> ..	10	10
<i>Little Red Riding Hood</i> ..	40	93	<i>Ama, the Sun Fairy</i> ...	10	10
<i>When the Little Boy Ran</i>			<i>Undine</i> .....	10	10
<i>Away'</i> .....	27	93	<i>Sweet and Low</i> .....	10	10
<i>The Little Red Hen</i> ....	13	92	<i>Ulysses and the Bag of</i>		
<i>Billy Binks</i> .....	83	89	<i>Winds</i> .....	14	7
<i>The Ant and the Mouse</i> ..	25	88	<i>The Little Brook</i> .....	33	6
<i>The Wolf and the Kid</i> ..	23	87	<i>Discontent</i> .....	28	4
<i>Careful Hans</i> .....	12	83	<i>An Evening at Home</i> ..	36	0
<i>Hans the Shepherd Boy</i> ..	11	82	<i>Blanche and Her Aunt</i> ..	16	0

## GRADE III

<i>Golden Cups</i> .....	22	100	<i>The Peddler's Pack</i> ....	12	83
<i>Robinson Crusoe</i> .....	21	100	<i>The Sleeping Beauty</i> ...	17	82
<i>The Leak in the Dike</i> ..	14	100	<i>The Sprite of the Mill</i> ..	21	76
<i>Aladdin and the Lamp</i> ..	14	100	<i>Burning of the Rice</i>		
<i>St. George and the</i>			<i>Fields</i> .....	12	75
<i>Dragon</i> .....	14	100	<i>The Boy Who Hated</i>		
<i>David the Slinger</i> .....	14	100	<i>Trees</i> .....	17	71
<i>Irene the Idle</i> .....	12	100	<i>Wynken, Blynken, and</i>		
<i>Story of Columbus</i> ....	12	100	<i>Nod</i> .....	11	64
<i>Androclus and the Lion</i>	11	100	<i>The Ugly Duckling</i> ...	56	61
<i>Hans the Shepherd Boy</i> ..	10	100	<i>Hercules and His La-</i>		
<i>Hans Who Made the</i>			<i>bors</i> .....	15	60
<i>Princess Laugh</i> .....	10	100	<i>Columbus and His Son</i> ..	14	50
<i>The Tar Baby</i> .....	74	97	<i>Daffy-down-dilly</i> .....	15	40
<i>The Knights of the Sil-</i>			<i>The Proud King</i> .....	14	36
<i>ver Shield</i> .....	32	97	<i>The Endless Tale</i> .....	23	31
<i>The Fairy Wand</i> .....	27	96	<i>The Corn Story</i> .....	11	36
<i>Washington's Boyhood</i> ..	19	95	<i>The Barefoot Boy</i> .....	10	20
<i>The Wishing Gate</i> ....	43	93	<i>The Czar and the Angel</i>	34	12
<i>Black Beauty</i> .....	29	93	<i>The Mad Tea Party</i> ...	21	5
<i>The Skylark's Spurs</i> ...	14	93	<i>The Wind and the Moon</i>	20	5

TABLE V—Continued

Selections	Fre- quency	Pct. favor- able	Selections	Fre- quency	Pct. favor- able
<i>The Knights of the Silver Shield</i> .....	34	91	<i>The Flying Trunk</i> .....	40	3
<i>The Bell of Atri</i> .....	21	91	<i>The Maple</i> .....	22	0
<i>The Brownies</i> .....	10	90	<i>The Crow</i> .....	16	0
<i>Cinderella</i> .....	27	85	<i>The Crab and the Moon</i> ..	15	0
<i>The Green Band</i> .....	26	85	<i>The Cricket on the</i>		
<i>Benji in Beastland</i> ....	13	85	<i>Hearth</i> .....	12	0
			<i>Climbing Up the Hill</i> ...	11	0
GRADE IV					
<i>How Little Cedric Be-</i>			<i>The Ugly Duckling</i> ....	17	65
<i>came a Knight</i> .....	51	100	<i>The Nurnberg Stove</i> ...	14	64
<i>Florinda</i> .....	33	100	<i>Sleeping Beauty</i> .....	13	62
<i>William Tell</i> .....	27	100	<i>Queen Alice</i> .....	15	53
<i>Out to Old Aunt Mary's</i>	25	100	<i>Tom the Chimney Sweep</i>	30	50
<i>The Little Acadian</i> ....	24	100	<i>King Alfred</i> .....	28	50
<i>Roland the Noble Knight</i>	23	100	<i>Little Charley</i> .....	12	42
<i>Tilly's Christmas</i> .....	22	100	<i>A Strange Visitant</i> ....	15	40
<i>A Boy Hero</i> .....	16	100	<i>The Snow Image</i> .....	23	36
<i>Tom, Dick and Harry</i> ..	16	100	<i>Tom the Water Baby</i> .	11	36
<i>Maggie's Visit to the</i>			<i>The Spartan Three-Hun-</i>		
<i>Gypsies</i> .....	14	100	<i>dred</i> .....	16	31
<i>The Magic Prison</i> .....	13	100	<i>Sir Isaac Newton</i> .....	16	25
<i>The Leak in the Dike</i> ..	12	100	<i>The Emperor's New</i>		
<i>Willie Boy</i> .....	12	100	<i>Cloak</i> .....	13	23
<i>The Village Blacksmith</i>	11	100	<i>The Discontented Pen-</i>		
<i>Snow-white and Rose-red</i>	11	100	<i>dulum</i> .....	13	23
<i>The First Thanksgiving</i>	10	100	<i>Water Babies</i> .....	18	22
<i>A True Story about Leo</i>	10	100	<i>The House in Bidwell</i>		
<i>Robert of Lincoln</i> .....	10	100	<i>Street</i> .....	30	20
<i>Dust Under the Rug</i> ...	10	100	<i>The Heart of the Bruce</i>	11	18
<i>Beowulf, the Brave</i>			<i>Who Brought the Good</i>		
<i>Prince</i> .....	25	96	<i>News</i> .....	13	15
<i>The Pied Piper</i> .....	23	96	<i>The Declaration of Inde-</i>		
<i>Cosette</i> .....	100	94	<i>pendence</i> .....	21	14
<i>Baby Sylvester</i> .....	17	94	<i>Nuremburg</i> .....	11	10
<i>Aladdin</i> .....	54	93	<i>The Day Is Done</i> .....	10	10
<i>Dick Whittington</i> .....	15	93	<i>The Song of the Sower</i> ..	13	8
<i>Paul Revere's Ride</i> ....	13	92	<i>Baron Munchausen</i> .....	37	5
<i>Robinson Crusoe</i> .....	12	92	<i>Boyhood in the South</i> ..	36	5
<i>History of Tip-Top</i> ....	12	92	<i>Little Nell</i> .....	20	5
<i>The Broken Flower-pot</i> ..	20	90	<i>Nathaniel Hawthorne</i> ..	19	5
<i>Inchcape Rock</i> .....	16	83	<i>Last Lesson in French</i> ..	18	5
<i>Arthur's First Night at</i>			<i>The Whistle</i> .....	30	4

# GENERAL RESULTS FIRST, SECOND QUESTIONNAIRES 29

TABLE V—Continued

Selections	Fre- quency	Pct. f- avor- able	Selections	Fre- quency	Pct. f- avor- able
<i>Rugby</i> .....	30	87	<i>The Argonauts</i> .....	48	0
<i>The Wishing-gate</i> .....	34	85	<i>The Factory Boy</i> .....	22	0
<i>A Brave Boy's Adventure</i> ..	18	83	<i>A Letter to His Son</i> ....	17	0
<i>Prince Ahmed</i> .....	11	82	<i>Literary Biographies</i> ..	16	0
<i>Hans Clodhopper</i> .....	16	81	<i>Duty</i> .....	16	0
<i>Our First Naval Hero</i> ..	10	80	<i>Language</i> .....	15	0
<i>Sigurd</i> .....	10	80	<i>Timothy's Incarnation</i> ..	14	0
<i>Christmas at the Cratch-</i>			<i>The Sunken Treasure</i> ..	11	0
<i>its'</i> .....	12	75	<i>Child's Dream of Star</i> ..	11	0
<i>Brought to Trial</i> .....	17	71	<i>Printing</i> .....	10	0
<i>The Golden Fleece</i> .....	20	70			

## GRADE V

<i>Nurnberg Stove</i> .....	62	100	<i>The Pygmies</i> .....	10	80
<i>Robin Hood</i> .....	25	100	<i>The Golden Touch</i> .....	66	79
<i>Maggie's Visit</i> .....	24	100	<i>The Pied Piper</i> .....	14	79
<i>Ulysses at the Cyclops</i> ..	12	100	<i>Arabian Nights</i> .....	40	78
<i>How Little Cedric Be-</i>			<i>The Fate of the Indians</i> ..	13	77
<i>came a Knight</i> .....	12	100	<i>Darius Green</i> .....	16	75
<i>The Leak in the Dike</i> ..	12	100	<i>Caleb and Bertha</i> .....	14	71
<i>William Tell</i> .....	11	100	<i>A Boy's Diving Trip</i> ....	14	71
<i>Beautiful Joe</i> .....	11	100	<i>Boston Massacre</i> .....	10	70
<i>King of the Golden River</i> ..	11	100	<i>Pandora's Box</i> .....	14	64
<i>A Brave Boy</i> .....	10	100	<i>Order for a Picture</i> ....	11	64
<i>The Simple Old Man</i> ..	10	100	<i>Paradise of Children</i> ..	15	47
<i>Nuremburg</i> .....	31	97	<i>The Great Stone Face</i> ..	35	40
<i>Patrasche</i> .....	54	95	<i>Destruction of Pompeii</i> ..	11	36
<i>The Sportsman</i> .....	16	94	<i>Titania and Oberon</i> ....	44	4
<i>Legend of Sleepy Hollow</i> ..	14	93	<i>Capturing the Wild</i>		
<i>Horatius at the Bridge</i> ..	26	92	<i>Horse</i> .....	25	4
<i>Giant and Pygmies</i> ....	25	92	<i>Industry</i> .....	27	0
<i>The Archery Contest</i> ..	13	92	<i>The Blessings of Pov-</i>		
<i>Robinson Crusoe</i> .....	31	90	<i>erty</i> .....	20	0
<i>Cosette</i> .....	20	90	<i>Glimpses of the Great</i>		
<i>Tom the Chimney Sweep</i> ..	10	90	<i>Commoner</i> .....	19	0
<i>The Soldier's Reprieve</i> ..	10	90	<i>Lying</i> .....	15	0
<i>Aladdin</i> .....	18	89	<i>Daniel O'Connell</i> .....	14	0
<i>The Man Without a</i>			<i>Hatto the Hermit</i> .....	14	0
<i>Country</i> .....	32	88	<i>Sleep</i> .....	13	0
<i>Joan of Arc</i> .....	17	88	<i>The Whistle</i> .....	12	0
<i>Hiawatha</i> .....	19	84	<i>Reverie of Poor Susan</i> ..	11	0

## GRADE VI

<i>Kentucky Belle</i> .....	24	100	<i>Legend of Sleepy Hollow</i> ..	21	91
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TABLE V—Continued

Selections	Pre- quency	Pct. favor- able	Selections	Pre- quency	Pct. favor- able
<i>Bishop and Convict</i> ....	14	100	<i>The Barefoot Boy</i> .....	11	91
<i>Legend of Bregenz</i> ....	13	100	<i>William Tell</i> .....	11	91
<i>The Courtship of Miles</i>			<i>Horatius at the Bridge</i> .	31	90
<i>Standish</i> .....	12	100	<i>Robinson Crusoe</i> .....	14	86
<i>Gulliver's Travels</i> ....	12	100	<i>Story of Ulysses</i> .....	20	85
<i>Sir Kenneth and the</i>			<i>The Revenge</i> .....	12	85
<i>Flag</i> .....	11	100	<i>Story of Achilles</i> .....	15	53
<i>Midget, the Return</i>			<i>Snowbound</i> .....	16	50
<i>Horse</i> .....	10	100	<i>Little Daffy-down-dilly</i> .	10	30
<i>Tom and Maggie</i> .....	10	100	<i>Death of Socrates</i> .....	11	18
<i>Robin Hood</i> .....	10	100	<i>Fairyland of Science</i> ..	10	10
<i>The Simple Old Man</i> ...	10	100	<i>The Contest Between the</i>		
<i>King of Golden River</i> ..	56	97	<i>Man and the Cannon</i> .	11	9
<i>The Pied Piper</i> .....	16	94	<i>Highest Aristocracy</i> ....	13	8
<i>Christmas at the Cratch-</i>			<i>Good Books</i> .....	12	0
<i>its'</i> .....	20	93	<i>Bobolink</i> .....	10	0
<i>Rip Van Winkle</i> .....	39	92	<i>Something About Books</i>	10	0

## GRADE VII

<i>Marco Bozzaris</i> .....	15	100	<i>Sword and Scimitar</i> ...	13	69
<i>Legend of the Moor's</i>			<i>The Vision of Sir Laun-</i>		
<i>Legacy</i> .....	13	100	<i>jal</i> .....	25	48
<i>The Prisoner of Chillon</i>	12	100	<i>The Contented Man</i> ....	13	46
<i>Snowbound</i> .....	10	100	<i>Herve Riel</i> .....	12	42
<i>Tribute to a Dog</i> .....	10	100	<i>Skeleton in Armor</i> ....	11	27
<i>Christmas at the Cratch-</i>			<i>Passing of Arthur</i> .....	10	20
<i>its'</i> .....	58	97	<i>The Mystery of Life</i> ...	26	19
<i>Charley</i> .....	57	97	<i>A Rill from the Town</i>		
<i>Legend of Sleepy Hollow</i>	98	95	<i>Pump</i> .....	26	19
<i>Fitz-James and Roder-</i>			<i>The Chambered Nautilus</i>	11	18
<i>ick Dhu</i> .....	21	95	<i>Cranford (Selections)</i> ..	10	10
<i>Rip Van Winkle</i> .....	20	95	<i>Island of the Fay</i> .....	19	0
<i>Mr. Pickwick's Slide</i> ...	16	94	<i>Early Conquests</i> .....	19	0
<i>Patrasche</i> .....	15	93	<i>Wealth</i> .....	16	0
<i>William Tell</i> .....	15	93	<i>What a Good History</i>		
<i>Horatius at the Bridge</i> .	12	92	<i>Should Contain</i> .....	15	0
<i>The Courtship of Miles</i>			<i>Character of Columbus</i>	15	0
<i>Standish</i> .....	74	91	<i>Character of Washing-</i>		
<i>King Arthur Stories</i> ...	68	91	<i>ton</i> .....	14	0
<i>Destruction of Pompeii</i> .	16	88	<i>Fall of the House of</i>		
<i>The Great Stone Face</i> ..	31	87	<i>Usher</i> .....	13	0
<i>Evangeline</i> .....	28	86	<i>What Constitutes a State</i>	12	0
<i>King of Golden River</i> ..	18	83	<i>Genius and Industry</i> ..	12	0

TABLE V—Concluded

Selections	Fre- quency	Pct. favor- able	Selections	Fre- quency	Pct. favor- able
<i>Julius Caesar</i> .....	21	81	<i>Moral Rights of Animals</i>	12	0
<i>Escape of Queen Mary.</i>	14	79	<i>Rhocus</i> .....	10	0
<i>Tales of a Grandfather.</i>	25	72			

## GRADE VIII

<i>The Man Without a</i>			<i>Enoch Arden</i> .....	21	81
<i>Country</i> .....	53	100	<i>Merchant of Venice</i> ....	40	80
<i>Julius Caesar</i> .....	36	100	<i>Herve Riel</i> .....	13	77
<i>The Prairie Fire</i> .....	22	100	<i>Snowbound</i> .....	59	76
<i>The Courtship of Miles</i>			<i>The Lady of the Lake</i> ..	38	76
<i>Standish</i> .....	19	100	<i>Stories of King Arthur.</i>	12	75
<i>The Heritage</i> .....	15	100	<i>The Vision of Sir</i>		
<i>Horatius at the Bridge.</i>	15	100	<i>Launfal</i> .....	79	71
<i>Raleigh's Coat</i> .....	11	100	<i>Lady of Shalott</i> .....	15	67
<i>Sohrab and Rustum</i> ....	10	100	<i>The Sketch Book</i> .....	12	58
<i>Christmas at the</i>			<i>The Descent into the</i>		
<i>Cratchits'</i> .....	53	91	<i>Maelstrom</i> .....	47	53
<i>Building of the Ship</i> ....	11	91	<i>Gray's Elegy</i> .....	15	53
<i>Evangeline</i> .....	84	88	<i>Thanatopsis</i> .....	21	14
<i>The Great Stone Face</i> ..	50	88	<i>Munera Pulveris</i> .....	19	5
<i>Paul Revere's Ride</i> .....	50	87	<i>The Renunciation</i> .....	15	0
<i>The Legend of Sleepy</i>			<i>Wisdom and Prudence</i> ..	11	0
<i>Hollow</i> .....	41	85			

grade selection *The Argonauts*. The request for the names of over-mature selections led teachers to mention many passages a few times each, while certain passages, as Franklin's *The Whistle*, were mentioned oftener for over-maturity than for any other undesirable characteristic. The more specific qualities named by teachers are discussed in the next chapter.

## RESPONSES TO QUESTIONNAIRE II

Table VI shows the character of the data obtained in the responses to Questionnaire II. Lack of space forbids including in this table the data for all the selections judged. This sampling of the responses shows agreement among the teachers. In all grades, from 45 to 78 per cent of the selections are favored by 85 per cent or more of the teachers who judged them. In Grade I, 11 selections were reported upon favorably by all who judged them.

The responses to the second questionnaire revealed evidences of a character inadequately shown in the earlier re-

sponses. In the first place, the responses verified in several ways those of the first questionnaire. Selections which had been favorably mentioned by the teachers responding to the first questionnaire were again reported upon favorably. For example, in the responses for Grade I, *The Gingerbread Boy*, *The Three Little Pigs*, and *The Christmas Story* (Aldine) were mentioned by 33, 17, and 10 teachers respectively in Questionnaire I, all of the teachers reporting favorably upon them. In the second questionnaire, the same selections were reported upon by 87, 82, and 61 teachers respectively, and again all reported favorably. Likewise, selections upon which disagreement was shown in Questionnaire I were disagreed upon by the teachers responding to Questionnaire II. The comments on *The Great Stone Face* illustrate this type of verification. There are also cases in which close agreement exists upon the inferiority of a selection. The poem *Nuremburg*, for example, is in disfavor with all excepting 3 per cent and 17 per cent respectively of the teachers who judged it in the first and second questionnaires.

Furthermore, the second questionnaire cleared up many doubtful cases, as that of *The Barefoot Boy*. In the first questionnaire, this selection made a very exceptional gain from Grade III to Grade IV—from 20 per cent of the teachers favoring it in one grade to 86 per cent favoring it in the next (less than ten teachers judged it in either grade). In the second questionnaire, however, this selection was judged by the teachers of Grades IV to VIII inclusive and responses from 40 to 69 teachers per grade obtained. Here, consistent gains were made throughout the intermediate grades, thus confirming the suspicion that the exceptional gain made in Questionnaire I was due largely to the small number of teachers judging the selection. Likewise *Abou Ben Adhem* showed an unusual gain from Grade IV to Grade V in Questionnaire I, but a more thorough canvass of teachers as afforded by the second questionnaire indicated that the teachers in the first gave it too high a rating. Such cases as those just cited resulted from the small numbers of teachers judging the selections in the first questionnaire.



TABLE VI. THE RESPONSE OF TEACHERS TO QUESTIONNAIRE II

THIS TABLE ILLUSTRATES THE CHARACTER OF THE COMMENTS MADE BY SHOWING THE FREQUENCY OF THE RESPONSES UPON A FEW SELECTIONS OF GRADE I AND THE PERCENTAGES OF TEACHERS REPORTING FAVORABLY ON THEM\*

Selections	Qualities																
	Frequency	Percent favorable	Interesting action	Interesting character	Interesting problems	Interesting repetition	Humor	Adventure, etc.	Kindness, etc.	Nature	Dramatization	Animals, etc.	Fairy	Moral	Well told	Rhyme	Easy
Gingerbread Boy.....	87	100	24	2	49	18	36	---	---	17	8	---	---	3	---	---	12
Three Little Pigs.....	82	100	10	5	18	7	38	---	---	17	43	---	---	3	5	2	14
The Three Bears.....	78	100	13	11	20	6	33	---	---	37	36	14	3	3	2	---	6
The Swing.....	72	100	6	19	---	---	---	---	6	---	---	---	---	2	2	30	20
Christmas Story.....	61	100	---	6	3	---	---	1	---	---	---	---	3	6	3	---	3
What Does Little Birdie Say?.....	55	100	---	14	---	---	---	1	13	---	4	---	---	2	1	30	15
My Shadow.....	49	100	1	12	3	2	---	---	4	---	---	---	---	---	2	33	23
Johnny Cake.....	44	100	8	---	23	7	6	---	---	1	7	8	---	1	1	1	2
Our Flag.....	39	100	1	---	1	---	---	---	---	---	---	---	---	2	---	32	3
Snowflakes.....	25	100	1	---	---	---	---	---	---	20	---	3	---	2	1	3	5
Tom and the Wind.....	16	100	3	11	1	2	---	---	---	3	1	---	---	---	---	---	9
Little Red Hen.....	78	99	12	---	32	4	6	---	12	20	23	---	8	6	1	---	16
Little Red Riding Hood.....	73	99	15	14	1	1	45	2	---	13	15	3	6	2	2	---	10
The Elves and the Shoemaker.....	60	98	7	2	6	1	---	39	---	2	---	46	6	2	2	---	1
Santa Claus.....	56	98	1	3	---	---	1	6	---	---	---	---	8	---	1	1	4
Sing a Song of Sirpence.....	54	98	2	---	---	7	1	---	---	3	---	---	---	---	1	49	2
The North Wind.....	47	98	2	---	---	---	2	6	28	2	3	1	---	1	1	11	2

The selections are listed in the order of their popularity. Some of the less frequently mentioned qualities are omitted for the sake of clearness.

In the third place, the second questionnaire elicited comments upon standard selections which were seldom or never mentioned in the first. As examples, *Paul Revere* was reported upon only twice in Grade VIII in the first questionnaire, while teachers of Grades III to VIII reported upon it in the second, and *Horatius at the Bridge* which was reported upon 12 and 15 times, respectively, in Grades VII and VIII was judged 52 and 42 times, respectively, in the second.

#### RECURRENCES OF SELECTIONS IN DIFFERENT GRADES

Many reading selections recur in different grades. Examples of recurrence found in Questionnaire I are *Cinderella* in Grades I to III, *Dick Whittington* in Grades II to IV, *The Barefoot Boy* in III to VI, *Aladdin* in I to V, *Horatius at the Bridge* in IV to VIII, and different versions of *The Pied Piper* in II to VII. These cases of recurrence raise the question of the correct placement of reading selections which is treated in Chapter IX.

This investigation has led to the collecting of experiential data pointing to the grades in which some selections ordinarily become appropriate. For example, *Dick Whittington* is not ordinarily judged as appropriate until Grade III, although the pupils of several succeeding grades are interested in this tale. Other examples occur in Table V and again in the tables of Chapter IX. These experiential data should be interpreted as showing only how early and not how late these selections may be used.

#### SUMMARY

This chapter presents the judgments of teachers upon a large body of reading material now in general use. These teachers who administer this material assert that many very undesirable as well as many highly desirable selections have become established in the reading course. The data show that many selections are used in two or more grades.

Several problems arise out of these data and discussions: (1) the determination of standards for eliminating undesirable selections; (2) the formulation of bases for detecting superior

selections; (3) the grading of selections so as to avoid (a) over-maturity or under-maturity of reading material and (b) too extensive duplications in different grades. Attention has been called to teachers' agreement upon the desirability of flexible placement for many selections. Before these problems can be adequately considered, a detailed study of the qualities of reading selections must be made. Such a study is undertaken in the following chapter.

## CHAPTER IV

### THE QUALITIES OF READING SELECTIONS

The terms used by teachers to characterize reading selections are descriptive rather than analytical. In the first questionnaire, teachers used whatever terms they happened to choose; in the second, they used defined terms drawn from a classified list. Pupils' use of terms was restricted only by the selections presented to them and the terms at their disposal. The purpose of this chapter is to show the frequency and to discuss the importance of the qualities of reading selections as indicated by the terms used by teachers and pupils.

#### UNDESIRABLE QUALITIES

**General Discussion of Tables and Diagrams.** Table VII shows the names and percentages of frequency of the undesirable qualities mentioned in both questionnaires. In addition to these undesirable qualities, several others were mentioned in the first questionnaire. The most important of these is *uninteresting*, which attains percentages ranging from 19 to 46 for the eight grades. In the second questionnaire this term does not occur because it was subsumed under others.<sup>1</sup> One per cent of the teachers of Grades V to VIII stated that their pupils dislike poetry. But *dislike of poetry* is omitted from the table of qualities because evidence shows clearly that the popular notion of this dislike is based upon pupils' dislike either of certain poems or of poems which are not well taught. One other quality, *lack of content*, was mentioned by 2 per cent of the teachers of Grades I and II. The selections thus described are alleged to provide merely for "word drill"; all of these comments are made upon the same series of readers. The quality *too mature* occurs less frequently in the second questionnaire than in the first because the teachers in respond-

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<sup>1</sup>See Chapter II for directions to teachers.

ing to the second stated the reasons for over-maturity by using such terms as *hard words*, *unfamiliar subject matter*, *abstract*, and *hard symbolism*.

TABLE VII

THE FREQUENCY OF EACH UNDESIRABLE QUALITY SHOWN IN PERCENTAGES FOR THE DIFFERENT GRADES IN THE TWO QUESTIONNAIRES\*

Qualities	Questionnaire	Grades							
		I	II	III	IV	V	VI	VII	VIII
Too mature -----	I	176	114	190	175	199	221	116	136
	II	63	93	138	155	148	170	140	131
Hard words -----	I	46	24	35	29	33	39	19	16
	II	32	49	83	99	92	77	49	38
Unfamiliar subject matter -----	I	17	9	15	13	13	17	8	8
	II	15	28	43	54	57	64	51	39
Too long -----	I	6	4	7	6	6	10	5	6
	II	22	21	25	24	23	24	22	17
Abstract or hard symbolism -----	I	3	4	9	11	9	10	3	4
	II	23	35	57	88	88	107	90	88
Too sad -----	I	3	2	5	4	5	4	3	5
	II	6	13	16	27	26	44	52	61
Tired of it -----	I	3	1	2	2	3	3	2	1
	II	9	13	17	14	14	14	13	5
No story, lacks action -----	I	17	11	19	18	19	20	8	4
	II	15	12	11	11	14	21	19	15
Scrappy -----	I	6	2	3	3	3	4	2	2
	II	2	2	3	3	4	6	6	6
Too childish -----	I	4	3	7	8	8	7	2	1
	II	15	18	22	17	25	44	52	47
Un-real -----	I	7	5	10	9	9	8	3	2
	II	16	13	17	17	18	21	17	14
Too didactic -----	I	2	1	2	1	1	2	1	1
	II	3	3	2	2	2	4	4	3
Characters disliked -----	I	2	1	2	1	1	2	1	1
	II	1	1	1	2	2	2	2	3
Monotonous -----	I	6	3	4	2	2	2	1	-----
	II	33	26	20	11	6	6	5	5
Bad moral teaching -----	I	7	6	7	6	3	2	-----	-----
	II	6	4	4	3	5	5	5	2
Not well told -----	I	4	5	7	5	3	3	1	-----
	II	2	5	4	6	3	5	2	-----

\*The percentages were derived by using the numbers of teachers per grade as bases and the total frequencies of the respective qualities as the divisors.

Table VIII shows the relative frequencies of the terms by which both pupils and teachers characterize unsatisfactory selections. In this table, three terms of Table VII are omitted. These terms, *bad moral teaching*, *characters disliked*, and *too didactic* are seldom used and never more than twice in the comments on a given selection even in Questionnaire II. Some of the qualities included in Table VII are not common in the first questionnaire, but recur frequently when suggested to teachers in the second. For example, 16 teachers report that *The Wreck of the Hesperus* is *too sad* in Grade III; relatively large numbers reported similarly on *The Prisoner of Chillon*, *The Fall of the House of Usher*, and *Thanatopsis* in the later grades. The recurrence of the use of the term *too sad* in comments upon a few selections is in contrast with the sporadic occurrence of the terms which have been omitted from Table VIII. The terms *not well told* and *scrappy* are included here because the style of certain selections in certain series of readers seems to limit the success of these selections. Diagrams I and II show in graphic form the data of Table VIII.

Table IX shows the relative frequencies of terms used in characterizing the most unsatisfactory selections. The data here shown from the second questionnaire refer to the analyses of the selections which the pupils say "they dislike most."

**Detailed Discussion of Each of the Undesirable Qualities.** *Too mature; abstract; hard words.* The diagrams emphasize the prevalence of the quality *too mature*, and show conclusively that teachers regard much reading material as over-mature for their classes. Detailed analyses are made in the next chapter of such selections.

*Unfamiliar subject matter.* Closely related to over-maturity of selections is the pupils' unfamiliarity with subject matter. The tables show that the term *unfamiliar subject matter* is frequently used by teachers of all grades. Teachers make this criticism of *Paul Revere's Ride* for Grade IV; here, one may well excuse them from the labor of adding sufficient content to prepare their pupils for this selection, because it is in advance of the work in United States history and is written in a style suitable for older pupils. Analogous comments



TABLE VIII

THE RELATIVE FREQUENCIES OF THE MOST IMPORTANT UNDESIRABLE QUALITIES IN THE TEACHERS' RESPONSES TO QUESTIONNAIRES I AND II\*

Qualities	Questionnaire	Grades							
		I	II	III	IV	V	VI	VII	VIII
Too	I	60	60	61	62	65	65	66	73
mature-----	II	25	28	30	30	28	28	28	26
Hard	I	15	13	11	10	10	11	11	9
words-----	II	13	15	18	19	18	13	10	8
Unfamiliar sub-	I	6	5	5	4	4	4	4	4
ject matter--	II	6	9	10	10	11	11	10	9
Abstract or hard	I	1	2	3	4	3	3	2	2
symbolism---	II	9	10	12	16	17	18	17	19
No story,	I	5	6	6	6	6	5	5	2
lacks action--	II	6	4	2	2	3	3	3	3
Un-	I	2	3	3	3	3	2	2	1
real-----	II	6	4	4	3	3	3	3	3
Too	I	2	2	2	2	2	3	3	3
long-----	II	9	6	5	5	4	4	4	4
Scrappy	I	2	1	1	1	1	1	1	1
-----	II	1	1	1	1	1	1	1	1
Too	I	1	1	2	1	1	1	2	3
sad-----	II	3	4	3	5	5	7	10	13
Too child-	I	2	2	2	3	2	2	1	1
ish-----	II	6	6	5	3	5	7	10	10
Tired	I	1	1	1	1	1	1	1	1
of it-----	II	3	4	4	3	3	2	2	1
Monoto-	I	2	2	1	1	1	1	1	---
nous-----	II	13	8	5	2	1	1	1	1
Not well	I	1	2	2	2	1	1	1	---
told-----	II	1	1	1	1	1	1	1	---

\*The relative frequencies were derived by using the sums of the frequencies of these qualities for each of the grades as divisors and the frequencies of the respective qualities as bases.

TABLE IX

THE RELATIVE FREQUENCIES OF UNDESIRABLE QUALITIES IN JUDGMENTS UPON THE MOST UNDESIRABLE SELECTIONS. BASED UPON THE JUDGMENTS OF THE TEACHERS WHO RESPONDED TO BOTH QUESTIONNAIRES\*

Qualities	Questionnaire	Grades							
		I	II	III	IV	V	VI	VII	VIII
Too	I	42	48	74	56	58	78	65	72
mature	II	13	15	16	12	9	5	7	9
Hard	I	30	15	4	21	19	14	16	5
words	II	14	15	17	18	19	19	15	13
Unfamiliar sub-	I	4	7	3	7	6		8	
ject matter	II	12	12	12	13	13	14	13	14
Abstract or hard	I				3	3		2	2
symbolism	II	5	6	9	13	19	21	24	26
No story,	I	9	15	10	6	12	7	5	12
lacks action	II	8	8	8	9	9	11	10	11
Un-	I	4	1	3	5	1		1	6
real	II	7	7	8	9	10	8	6	4
Too	I	1	2		1				1
long	II	14	12	8	7	5	4	4	4
Serappy	I	2	3				1		
	II	3	2	1	1	1	1	2	1
Too	I		1		1			3	1
sad	II	4	5	5	5	6	9	11	12
Too child-	I	1		1					
ish	II	1	1	3	3	2	2	2	2
Tired	I	4							
of it	II	3	4	4	3	3	2	1	
Monoto-	I	1	3			1			
nous	II	10	7	5	4	3	3	3	3
Not well	I	2	5	5			1		
told	II	6	6	4	3	1	1	2	1

\*The relative frequencies were derived as in Table VII.

could be made with reference to using either *The Prisoner of Chillon* or *Marmion and Douglas* in the intermediate grades.

*Too childish.* At the other extreme, a few selections are regarded as *too childish*. Such selections vary in number from grade to grade, but there are about as many for Grade I as for Grade VIII. The most common cause for the criticism is the duplication of the content of readers used in different grades. Some selections are doubly unfortunate in this respect. Of those on which data have been collected, *The Pied Piper* and *Hiawatha* are noteworthy. These selections not

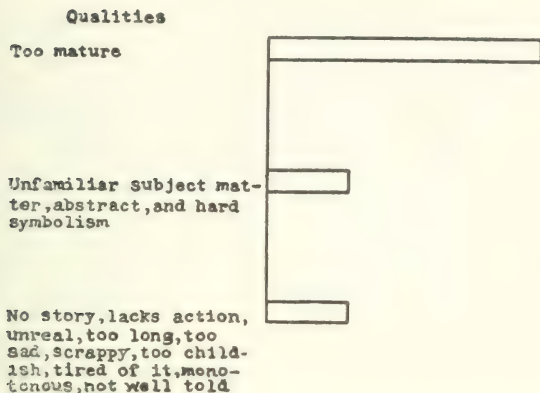


Diagram I. The relative frequencies of the most important desirable qualities in Questionnaire I. Based on Table VII. Combinations are here made in order to emphasize the frequency of the use of terms denoting over-maturity of subject matter.

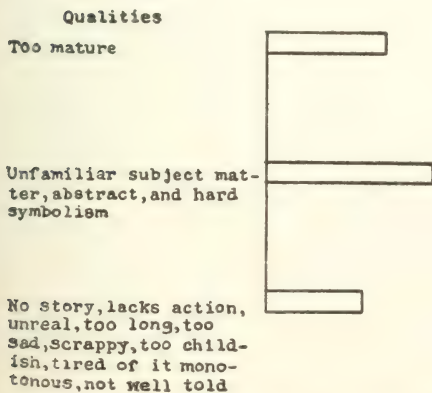


Diagram II. The relative frequencies of the most important undesirable qualities in Questionnaire II. Based on Table VII. Combinations are made as in Diagram I.

only appear in many readers but are rendered in various forms so that when the poems are finally used many pupils either regard them as *too childish* or are already tired of them.

*No story.* The terms *no story* and *lacks action* are elicited from both teachers and pupils in the case of such selections as Gray's *Elegy*, *The Chambered Nautilus*, and *About Ben Adhem*. Pupils' additional comments on *About Ben Adhem* include the following (Grades VII and VIII, School A): "too serious", "dry", "not much adventure and exciting things." Similar comments occur in pupils' statements about *The Chambered Nautilus*: "I can see no scheme or story in this although the descriptions are beautiful", and "dislike because not adventurous."

*Monotonous.* The term *monotonous* is dependent upon the same literary form that gives rise to the term *interesting repetition*, namely, the cumulative arrangements used to ensure drill during the early grades. Some selections, as *The Three Bears*, possess content of sufficient interest to avoid this adverse criticism and are, therefore, commended for their *interesting repetition*. Other selections, as *The Endless Tale*, have enough interesting content to avoid adverse comments from only a part of the teachers. There seem, consequently, to be two ways of avoiding monotony and at the same time securing drill during these grades: (1) the avoidance of repetition unless the subject matter is of great interest, and (2) the use of devices employed to make drill periods interesting—games, for example, in which flash cards are used for drilling on difficult or new words. The relative frequency of the term *monotonous* decreases from grade to grade, thus paralleling the course of *interesting repetition*, as shown in Table XII.

*Unreal.* The term *unreal* was used by many teachers, but was not often applied to any one selection. No selection of the list for Grade I was so described by more than one teacher in the second questionnaire. Two selections, *Baron Münchhausen* and *The Fall of the House of Usher* were so regarded by a much higher percentage of the teachers of the later grades. We find, however, that only about 20 per cent of the pupils regard the *Münchhausen* tales as too unreal while a much

higher percentage find them interesting just because they are "nonsensical", "untrue", or "impossible."

*Too sad.* Certain selections, as *Thanatopsis* and Gray's *Elegy*, are responsible for the greater part of the use of the term *too sad*. Some additional selections, unless very carefully presented, also leave an undesirable impression of sadness with pupils. The comments of older pupils indicate, however, that the poem entitled *The Wreck of the Hesperus* is a favorite because it does arouse a feeling of sadness. Here also the teacher may control the appeal and turn an undesirable effect into a desirable one by emphasizing one aspect of the poem rather than another.

*Not well told.* Literary form affects the success of scores of selections, some of which will be analyzed in later chapters. The comparison of teachers' reactions to different versions of the same stories is, however, inconclusive on this point because selections having sufficient merit to gain a place in more than one series of readers are usually interesting enough to counteract a poor rendering. There are, nevertheless, a few selections which are favorites only with teachers using certain versions. For example, in Questionnaire I, *The Gingerbread Boy* is mentioned from one to sixteen times, respectively, by teachers reporting upon the versions found in six different readers. This selection is mentioned by all the eleven teachers reporting on the Riverside readers, but only once by the ten teachers using another series. An additional example, the selection entitled *The Clever Jackal*, is discussed in the next chapter. Two matters probably control this selective process: (1) the attractiveness of the version and (2) the relative attractiveness of other selections in the same reader.

The comments regarding the teachers' responsibility for the success of reading matter are made because of the writer's firm belief that although method and content are separable aspects of the problem of teaching reading, they are often resolved into a single complex aspect. It is suggested that, if superior teaching were exhibited, many of the undesirable qualities would diminish materially.

TABLE X

THE FREQUENCY OF EACH DESIRABLE QUALITY SHOWN IN PERCENTAGES  
FOR THE TWO QUESTIONNAIRES\*

GROUP I. (Qualities which make a selection intrinsically interesting)

Qualities	Questionnaire	Grades							
		I	II	III	IV	V	VI	VII	VIII
Interesting	I	23	20	17	17	20	20	22	23
action	II	270	271	237	197	180	215	228	238
Interesting	I	7	11	22	29	34	26	20	13
characters	II	33	48	66	83	83	96	113	140
Interesting	I	17	15	14	13	15	16	18	17
problems	II	45	58	64	65	64	72	81	90
Interesting	I	12	18	29	33	33	34	33	30
information	II	19	35	37	31	40	54	70	71
Interesting	I	10	6	3					
repetition	II	346	238	113	29	15	12	12	8
Humor	I	16	25	30	26	30	34	32	20
	II	163	174	163	166	179	182	222	206
Home	I	3	2	1	3	5	5	4	4
life	II	41	30	28	25	44	58	78	84
Child	I	12	11	14	13	13	8	5	2
life	II	90	94	120	141	135	94	55	44
Character	I		2	3	4	5	9	13	16
study	II	42	68	111	134	163	188	218	233
Dramatic	I	16	19	26	30	36	32	27	17
action	II	225	230	226	195	181	188	222	240
Heroism	I	2	5	9	12	14	14	12	10
	II	10	81	164	217	223	216	227	216
Romance	I		1	1	2	2	3	4	4
	II	13	16	15	21	37	63	85	100
Knight-	I	1	4	5	6	4	7	8	9
hood	II			50	45	50	53	63	64
Kind-	I	11	16	24	24	23	17	13	7
ness	II	185	215	254	238	227	173	172	154
Nature	I	25	20	13	9	7	5	4	2
	II	192	147	110	83	121	134	168	170
Dramati-	I	29	26	22	15	13	8	6	4
zation	II	246	198	144	88	74	65	66	70
Personifica-	I	3	3	3	1	1			
tion	II	188	122	87	40	33	28	28	27
About animals									
or animal	I	23	24	25	22	19	11	6	1
play	II	244	211	183	103	84	44	42	25
Fairy element									
or supernat-	I	12	18	21	22	16	12	7	4
ural	II	228	313	321	321	319	185	109	80
Festival	I	24	15	5	2	3	3	1	1
element	II	84	46	27	36	53	57	54	53

\*The percentages were derived by using the number of teachers per grade as bases and the total frequencies of the respective qualities as divisors.



GROUP II. (Qualities commonly mentioned along with desirable results of teaching).

Qualities	Questionnaire	Grades							
		I	II	III	IV	V	VI	VII	VIII
Moral	I	22	36	54	55	62	52	35	28
	II	254	299	306	253	252	293	323	333
Patriotism	I	1	2	4	5	7	6	8	8
	II	23	17	15	16	29	45	72	86
Cultivates imagination	I	13	14	14	17	17	14	8	3
	II	130	141	144	139	131	125	128	131
Stimulates thought	I	2	2	4	6	7	7	8	9
	II	50	28	43	39	66	71	84	79
Cultivates expression	I	5	4	4	3	4	3	2	1
	II	128	133	105	72	81	106	127	129
Enlarges vocabulary	I	3	2	1	2	2	1	1	---
	II	58	61	64	50	58	68	73	67

Group III. (Qualities which are dependent upon literary merit).

Well told	I	5	8	12	15	17	15	16	16
	II	85	103	126	132	150	174	207	233
Rhyme	I	7	5	4	3	4	3	2	---
	II	124	103	81	74	81	89	79	66
Rhythm	I	4	3	2	2	2	1	1	1
	II	226	217	182	156	179	195	231	234
Diction	I	3	3	4	4	5	4	4	3
easy	II	16	18	16	17	26	40	64	82
Content	I	15	37	30	25	24	19	19	14
easy	II	115	116	115	112	119	118	123	128
Variety	I	2	2	1	1	1	1	1	---
	II	19	20	21	14	17	18	20	17
Familiar subject matter	I	9	9	8	6	4	2	1	---
	II	134	103	73	42	49	57	69	73

DESIRABLE QUALITIES

The frequencies with which each desirable quality was mentioned in the questionnaires are shown in Tables X and XI. These qualities have been divided into three somewhat arbitrarily defined groups. Group I contains qualities tending to make a selection intrinsically interesting to pupils; Group II, qualities commonly mentioned in connection with the desirable results of teaching; and Group III, qualities depending chiefly upon the literary merits of the selections. These groups are discussed in consecutive order in the following pages.

Table XI shows the relative frequencies of the qualities

which seem to be the determinants of pupils' interests in reading selections. Although some of these qualities occur no oftener than other qualities, their presence in the comments on practically every desirable selection indicates that they and not other qualities determine the interest. Diction, rhyme, moral value, and degree of difficulty need to be considered, but both teachers and pupils agree that the qualities catalogued in Table XI govern the merit of reading matter. For example, a selection with excellent diction may be referred to as "mere words"; or, one having excellent moral teachings be "too didactic" or have "too obvious" a moral. If instead of looking for didactic qualities in a standard reading selection, one looks for the qualities of Group I, the moral and other important values will, teachers contend, be more impressively taught than if didactic qualities determine desirability. Another reason for designating certain qualities as determinants is that the selections judged to be the "best" in the respective lists in the second questionnaire have been found to exemplify these qualities to a marked degree, while the selections judged to be the "poorest" almost without exception fail to do so. In answer to the possible objection that the qualities here regarded as determinants merely aid in teaching or cater to the superficial desires of pupils, it may be said, first, that no critics of reading matter object to the presence of any of these qualities and, second, that a careful study shows that the finest examples of literary achievement abound with these characteristics rather than with merely formal qualities. The determinants refer then to attributes of good literature and, at the same time, to attributes of content by means of which didactic or other formal results may be most readily attained. The grouping of qualities under eleven terms in Table XI conceals very little so far as either teachers' estimates of pupils' interests or the interests of teachers themselves are concerned.

Diagram III shows graphically the data for Questionnaire II as shown in Table XI. The high percentage of teachers naming each quality when judging a large and representative group of selections gives value to the relative frequencies of the qualities shown in this diagram. The diagram emphasizes

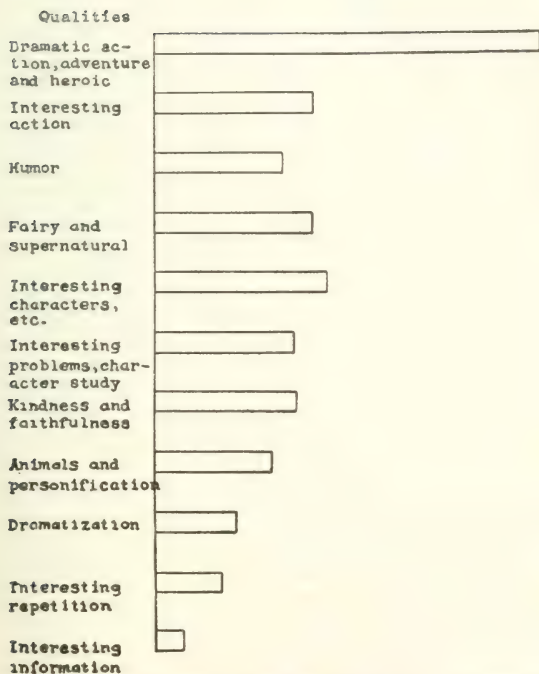


Diagram III. The relative frequencies of the most important desirable qualities in Questionnaire II. Based on Table XI.

TABLE XI

THE RELATIVE FREQUENCIES OF THE MOST IMPORTANT DESIRABLE QUALITIES BASED UPON THE JUDGMENTS OF TEACHERS WHO RESPONDED TO BOTH QUESTIONNAIRES\*

Qualities	Questionnaire	Grades							
		I	II	III	IV	V	VI	VII	VIII
Dramatic action, adventure, and heroic -----	I	7	9	15	20	23	23	19	19
	II	14	19	23	27	28	28	28	28
Interesting action (not dramatic) -----	I	8	8	9	10	10	9	11	14
	II	11	11	9	9	8	10	11	12
Humor -----	I	10	13	11	9	9	12	14	10
	II	7	6	6	7	8	10	11	10
Fairy and supernatural -----	I	7	7	8	7	6	5	3	2
	II	9	13	13	14	11	9	5	5
Interesting characters, home life, or child life -----	I	16	12	13	13	16	14	19	13
	II	7	6	8	12	14	14	13	13
Interesting problems and character study -----	I	8	7	6	6	7	10	14	20
	II	3	5	7	8	10	11	13	14
Kindness and faithfulness -----	I	6	8	10	9	8	6	4	4
	II	8	9	10	10	10	8	9	8
About animals, animal play, or personification -----	I	13	14	9	8	7	4	2	1
	II	16	13	10	6	5	3	3	3
Dramatization, availability for -----	I	13	10	7	6	5	3	2	2
	II	10	8	7	4	3	3	3	3
Interesting repetition -----	I	5	3	1					
	II	14	9	5	1	1	1	1	1
Interesting information -----	I	7	9	11	12	9	14	12	15
	II	1	1	2	2	2	3	3	3

\*The relative frequencies were derived as in Tables VIII and IX.

the desirability of providing selections portraying action of a dramatic or otherwise interesting character.

#### QUALITIES WHICH MAKE READING SELECTIONS INTRINSICALLY INTERESTING

Interesting Repetition; Interesting Problems. Diagram IV shows the shifting of interest from grade to grade. *Interesting repetition*, for example, passes from the third place in

Grade I to the fifth in Grade II; thence nearly to the last place where it remains. In contrast with this is the course of *interesting problems*, which moves from next to the last place in the list to the second position in Grade VIII. While cumulative tales with their interesting repetition are used only in the early grades, the subject matter of all grades admits of raising problems, as, for example, questions dealing with character study. The data show, therefore, that at present the relative importance of these and other qualities varies from grade to grade. The extent to which this variation is due to the character of the subject matter now used or to the possibility of arousing the child's interests in any other subject matter is not shown. Diagram V shows in another way the frequency changes of important qualities which vary from grade to grade.

**Interesting Action.** *Interesting action* is the best guarantee of success for a selection. A passage may be as successful with simple non-dramatic action as with action of a dramatic or adventurous character. Among the most successful selections, however, are many which exemplify both types of action, as *The Pied Piper* and *Dick Whittington*. The frequency of terms which can be subsumed under *interesting action* shows that if a selection is not to be greatly enlivened by the teacher, it must possess qualities of action. Furthermore, this quality is often accompanied by other desirable qualities such as *interesting characters*, *home life*, and *child life*, as in *Cosette*, *Dick Whittington*, and *How Cedric Became a Knight*. The success of these passages attests the desirability of such combinations of appeal.

Table XII contains data upon the selections designated as the "best" in the responses to Questionnaire II.<sup>2</sup> The small number of these selections probably accounts for the irregularities of the table but, at any rate, there is a striking similarity to the more general results shown in Table XI. The importance of *action* throughout the grades, of *interesting repetition* and *animal play* in the early grades, and the increasing prominence of *interesting problems*, *interesting characters*,

<sup>2</sup>The selections designated as the "best" are shown in Table XVII of Chapter VI.

## DIAGRAM IV

THE SHIFTING OF RANKS OF THE MOST IMPORTANT DESIRABLE QUALITIES IN DIFFERENT GRADES  
 BASED ON TABLE XI. THE TABLE AS READ FROM LEFT TO RIGHT INDICATES THAT *Dramatic Action* HAS THE HIGHEST FREQUENCY OF THESE QUALITIES IN ALL THE GRADES EXCEPT THE FIRST, AND SO ON.

## GRADE I

About animals, etc.	Dramatic action, etc.	Interesting repetition	Interesting action	Kindness and faithfulness	Fairy and supernatural	Dramatization	Kindness and faithfulness	Humor	Interesting characters	Interesting problems	Interesting information
---------------------	-----------------------	------------------------	--------------------	---------------------------	------------------------	---------------	---------------------------	-------	------------------------	----------------------	-------------------------

## GRADE II

Dramatic action	About animals, etc.	Fairy and supernatural	Interesting action	Kindness and faithfulness	Interesting repetition	Kindness and faithfulness	Dramatization	Humor	Interesting characters	Interesting problems	Interesting information
-----------------	---------------------	------------------------	--------------------	---------------------------	------------------------	---------------------------	---------------	-------	------------------------	----------------------	-------------------------

## GRADE III

Dramatic action	Fairy and supernatural	About animals, etc.	Kindness and faithfulness	Interesting action	Interesting characters	Dramatization	Interesting problems	Humor	Interesting repetition	Interesting information
-----------------	------------------------	---------------------	---------------------------	--------------------	------------------------	---------------	----------------------	-------	------------------------	-------------------------

## GRADE IV

Dramatic action	Fairy and supernatural	Interesting characters	Kindness and faithfulness	Interesting action	Interesting problems	Humor	Humor	About animals, etc.	Dramatization	Interesting repetition
-----------------	------------------------	------------------------	---------------------------	--------------------	----------------------	-------	-------	---------------------	---------------	------------------------

## GRADE V

Dramatic action	Interesting characters	Fairy and supernatural	Kindness and faithfulness	Interesting problems	Interesting action	Humor	Humor	About animals, etc.	Dramatization	Interesting repetition
-----------------	------------------------	------------------------	---------------------------	----------------------	--------------------	-------	-------	---------------------	---------------	------------------------

## GRADE VI

Dramatic action	Interesting characters	Interesting problems	Interesting action	Humor	Fairy and supernatural	Kindness and faithfulness	Kindness and faithfulness	About animals, etc.	Dramatization	Interesting repetition
-----------------	------------------------	----------------------	--------------------	-------	------------------------	---------------------------	---------------------------	---------------------	---------------	------------------------

## GRADE VII

Dramatic action	Interesting characters	Interesting problems	Interesting action	Humor	Kindness and faithfulness	Fairy and supernatural	Fairy and supernatural	About animals, etc.	Dramatization	Interesting repetition
-----------------	------------------------	----------------------	--------------------	-------	---------------------------	------------------------	------------------------	---------------------	---------------	------------------------

## GRADE VIII

Dramatic action	Interesting problems	Interesting characters	Interesting action	Humor	Kindness and faithfulness	Fairy and supernatural	Fairy and supernatural	About animals, etc.	Dramatization	Interesting repetition
-----------------	----------------------	------------------------	--------------------	-------	---------------------------	------------------------	------------------------	---------------------	---------------	------------------------



TABLE XII

THE RELATIVE FREQUENCIES OF THE MOST IMPORTANT DESIRABLE QUALITIES IN THE "BEST" SELECTIONS IN QUESTIONNAIRE II\*

Qualities	Grades							
	I	II	III	IV	V	VI	VII	VIII
Dramatic action, adventure, and heroic-----	19	22	24	24	23	22	10	18
Interesting action (not dramatic) -----	13	12	12	13	13	12	9	10
Humor -----	8	8	7	5	4	6	9	10
Fairy element or supernatural -----	3	4	6	6	7	8	7	4
Interesting characters, home life, and child life	7	9	11	14	17	18	20	22
Interesting problems and character study--	3	5	9	12	14	15	16	17
Kindness and faithfulness -----	2	6	10	13	11	7	6	6
About animals, animal play, and personification -----	16	13	8	5	3	2	1	1
Dramatization, availability for -----	18	12	8	5	5	5	6	6
Interesting repetition--	11	7	3	-----			1	-----
Interesting information -----		2	3	3	3	4	6	6

\*The relative frequencies were derived by dividing the frequencies of each quality by the total frequencies of all qualities for each respective grade.

and *interesting information* show that the general results may be depended upon as guides to the best selections.

**Animals, Animal Play, and Personification.** In the early grades, stories of animal play are important. Such stories are supplanted in the intermediate grades by *Black Beauty*, *Patrasche the Dog of Flanders*, and the like. Although animal stories are favorites, too few of them appear in the readers used in the later grades to give the quality *about animals* great importance.

**Dramatization.** Dramatization is important throughout the grades. Such selections as *The Pied Piper* are suitable for dramatization in any of the grades in which they are used. *The Courtship of Miles Standish* and *The Merchant of Venice* are often used for this purpose in the upper grades.

**Fairy Element and Supernatural.** The fairy story is very important in Grades II to V. Tables XI and XIII indicate

differentiations made in the use of the terms *fairy* and *supernatural* in the different grades. Such stories as *The Shoemaker and the Elves* and *Rip Van Winkle* illustrate this differentiation. The pupils' reactions show clearly that interest in fairy tales does not end with the passing of the intermediate grades. Indeed, a high percentage of grammar grade pupils profess enjoyment in the tale of *Aladdin and His Wonderful Lamp*. The results indicate that a failure to use such tales in the later grades should not be attributed to a lack of interest in fairies or the supernatural.

**Kindness, Faithfulness, and Loyalty.** *Kindness* and *faithfulness* are frequently used in connection with other qualities. For example, the faithfulness of Patrasche and the kindness of the stranger in Cosette enhance the interest of pupils in selections which are interesting even apart from the presence of these qualities.

**Humor.** *Humor* is an important quality throughout the grades. Only occasionally does one find both teachers and pupils who look askance at material which exemplifies this quality. Such persons either fail to see anything humorous in such selections as *The One-hoss Shay* and the *Adventures of Baron Münchhausen* or regard them as "silly."

**Interesting Information.** The older reading selections containing informational material are especially unfortunate in all of the grades. The reason for this lack of interest in these selections is obvious if one bears in mind the attributes of popular selections. There is, however, no evidence that well-graded informational material is not interesting. Indeed, the popularity of the Community Life Leaflets is as great as that of any other selections upon which data have been collected. The quality *interesting information* has importance also in such selections as *The Leak in the Dike*: teachers supply additional information about Holland and report that they succeed very well so far as interest is concerned.

#### QUALITIES COMMONLY MENTIONED ALONG WITH THE DESIRABLE RESULTS OF TEACHING

**Moral; Cultivation of Imagination.** Among qualities mentioned along with desirable results of teaching the moral

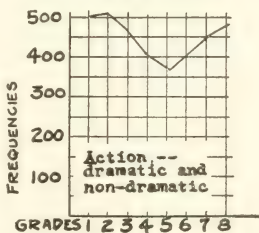
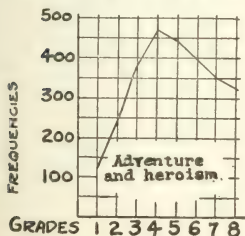
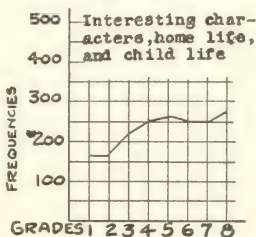
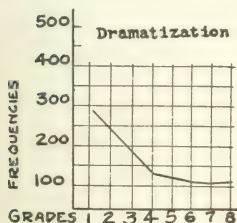
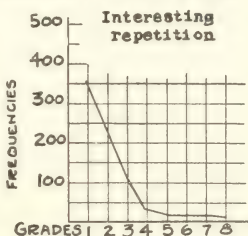
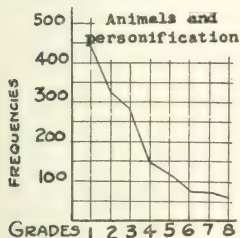
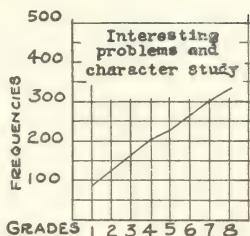
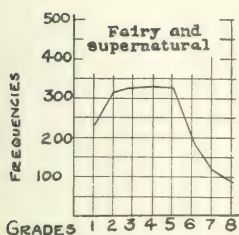


Diagram V. Changes in the frequencies of important desirable qualities from grade to grade. Questionnaire II. Based on Table X.

quality leads in all grades, while the development of imagination holds either the second or the third rank. Nearly all selections are used for teaching morality and developing imagination. When these data are considered with reference to the original statements of pupils, it appears that there is not an over-use of the story with a moral, but rather that there is an attempt to provide material which will give desirable emotional settings for morality without making the moral problem too obtrusive. Statements supporting this deduction are found in many of the responses: as already stated some selections teach morality "without seeming to do so." *Patriotism* is exemplified by so few selections that its importance cannot be determined from its frequency in the tables.

**Cultivation of Expression and Stimulation of Thought.** The recent tendency to emphasize silent reading<sup>3</sup> is not reflected in the responses to either questionnaire. The term *cultivation of expression* refers to expressive reading and the term *stimulation of thought* to promotion of class discussion. The interpretation of material read is emphasized more by the incidental comments than by the responses tabulated under *stimulation of thought*. Later tables show that many selections are used for the purpose of stimulating thought upon important topics.

**Enlargement of the Vocabulary.** Although the enlargement of the vocabulary is an important result of teaching, it is not mentioned as a specific value of many selections. It is, however, frequently mentioned in connection with selections about which there are other comments. For example, *Rip Van Winkle* and *The Legend of Sleepy Hollow*, which are very popular selections, are regarded as having great value in this respect.

#### THE LITERARY QUALITIES

**Familiar Subject Matter, Easy Content, and Easy Diction.** The overwhelming evidence that many selections are too difficult for the grades in which they are taught is in agreement with the evidence that many other selections are

<sup>3</sup> C. H. Judd and others: *Reading; Its Nature and Development*. Supplementary Educational Monographs, Vol. II, No. 4. The University of Chicago Press, 1918.



TABLE XIII—Cont.

Selections	Qualities												
	(Grade	Teacher or	Interesting pupils	Interesting problems	Interesting characters	Interesting action	Interesting information	Humor	Adventure	Kindness	Moral	Well told	Rhyme Rhythm
<i>Paul Revere's Ride</i>	VI	T	1	15	17	---	---	---	---	5	10	2	23
		P	8	23	11	---	12	---	46	---	19	4	8
	IV	T	3	3	---	16	---	---	32	---	9	---	10
		P	20	2	---	6	---	---	31	---	16	---	2
	V	P	7	4	---	---	---	---	35	---	24	---	4
<i>The One-hoss Shay</i>	VI	T	17	2	2	2	---	---	35	---	5	2	13
		P	12	8	---	---	---	---	35	---	21	3	8
	VII	T	16	4	---	---	---	---	26	---	6	5	10
		P	3	3	---	16	---	---	25	---	11	5	19
	VIII	T	15	---	---	11	---	---	36	---	3	5	6
<i>The Gettysburg Address</i>	VII	T	16	---	---	28	---	---	29	---	12	5	10
		P	5	---	---	---	55	---	---	---	3	3	4
	VII	T	---	1	---	---	43	---	---	---	1	11	11
		P	---	---	---	---	---	---	---	---	17	15	---
	VIII	T	---	---	---	8	4	---	---	---	19	13	---
<i>The Gettysburg Address</i>		P	---	---	---	19	16	---	---	---	28	23	---
	VIII	T	---	---	---	4	4	---	---	---	11	23	---
		P	---	---	---	26	10	---	---	---	11	23	---
			---	---	---	---	---	---	---	---	---	---	---
			---	---	---	---	---	---	---	---	---	---	---

\*The frequencies were derived by dividing the frequencies of the terms by the number of teachers or pupils, respectively, for the grades.



regarded as effective particularly because they are within the mental grasp of the pupils who study them. This fact shows at least that teachers desire material which increases interest instead of material which needs so much explanation that interest is lost by the time the meaning is mastered or the words correctly pronounced.

**Rhyme and Rhythm and Variety.** Pupils' statements about their interests in rhyme and rhythm agree with teachers' statements. Variety, an incidental quality, refers to both style and content.

#### COMPARISON OF TEACHERS' AND PUPILS' RESPONSES

As shown by Table XIII, there are some distinct differences between the incidental qualities named by pupils and those named by teachers. For example, literary qualities, excepting rhyme and rhythm, are seldom mentioned by pupils. *Well told* is seldom used by pupils except in case of the *Gettysburg Address* where it means good diction; elsewhere it means that the story has a good ending, as in *The Ugly Duckling* and *Cosette*. Close agreement is found, however, between pupils' and teachers' mentioning of the qualities which determine the merit of reading matter. Here, we find a correlation of .87. It seems justifiable to maintain that teachers' judgments on many other selections not judged by pupils would be in equally close agreement with pupils' judgments.

The interest of teachers in the moral value of many selections is notable. Reactions of pupils show that they do not feel this emphasis unduly. In many cases, the pupils' comments indicate their appreciation of fair play, penalty for wrong-doing, and other moral qualities or teachings. For example, they show marked disapproval of the magician in *Aladdin* and for *Phaethon*; also, they mention the moral qualities of *Abou Ben Adhem* and *The Chambered Nautilus* in terms unlike those which teachers are said to "impose" upon pupils.

Table XIII shows also the difficulties encountered in an attempt to inculcate patriotism by such a selection as *What Constitutes a State*. (In the table *morality* and *patriotism* are combined.) The lack of a variety of appeals is one of the

reasons advanced by pupils as a cause for their lack of interest in this selection. The analysis of this poem in the following chapter indicates, however, that *over-maturity of content* and *of diction* is the more fundamental difficulty. Other selections frequently cited for their patriotic values are *The Leak in the Dike* and *Paul Revere's Ride*, but both are superior owing to other appeals such as *interesting action, adventure, and interesting characters*. Pupils mention the moral and patriotic values of these interesting selections oftener than in the case of *What Constitutes a State*.

Additional qualities were often mentioned by pupils. For example, the *fairy element* in *Aladdin* was mentioned by seventy-five pupils, and the *festive element* in *Christmas at the Cratchits'* sixty times. Many pupils found nothing more vital to say about other selections than that they are interesting because of the great men who wrote them. This is true of the *Gettysburg Address* in Grades VI to VIII; here, the following percentages of pupils stated that they liked this passage because of their interest in Lincoln: 14 per cent, 14 per cent, and 37 per cent. This does not prove that such a selection is unsuccessful but shows that teachers should at the outset make use of the interest in the author and then attack the additional problem of teaching the main argument of the address.

### CONCLUSIONS

In all grades, teachers and pupils mention over-maturity of reading material oftener than any other undesirable quality. This term refers to the difficulty of diction or content, unfamiliarity with the subject matter, or to difficulty with the symbolism found in reading selections.

Teachers' comments indicate that, in addition to over-maturity, a few other qualities act as determinants of undesirability in reading selections. The additional determining qualities are *no story, lacks action, unreal, too long, scrappy, too sad, too childish, monotonous, and not well told*. Also, a few selections are undesirable because pupils are tired of them.

Reading courses should be so planned that either the selections will not present considerable difficulties with the subject

matter or that able teachers will be given ample time for the presentation of necessary explanatory material.

Teachers have difficulty with some easy selections which are found in many versions and sometimes in readers of several different grades. Pupils either tire of such selections or find them too immature.

Interest in the repetition contained in cumulative folk tales continues throughout the primary grades; beyond these grades, such tales are likely to be *monotonous* or *too childish*.

Teachers who lack interest in humorous passages should be warned against the use of the *Münchhausen* tales, *The One-hoss Shay*, and other similar selections. So far as pupils are concerned, however, such selections, if easy, will teach themselves; if difficult, they require sympathetic teaching. Careful teaching is required also by selections possessing a touch of sadness; if poorly taught, such selections leave an over-emphasis upon an otherwise desirable quality.

Literary form is important. Some versions of certain tales elicit many favorable comments while other versions pass unnoticed. Many superior selections are popular in any of the versions found in different series of readers.

Although many desirable qualities are mentioned by teachers, only a few of them are determinants of merit. The qualities such as *interesting action* and *interesting characters* ensure intrinsic interest in the selections which portray them. Teachers find such selections better for didactic use and for use as illustrations of literary merit than selections which are primarily of literary and didactic value and only secondarily of intrinsic interest.

The relative percentages of the determinants of interest vary from grade to grade. The judgments of many teachers, after being found to agree closely with those of pupils, seem to form an adequate basis for computing the relative importance of the determinants of interest. Some qualities, as *fairy* and *super-natural* elements, persist in importance throughout the grades, although the character of the subject matter referred to by them changes considerably.

## CHAPTER V

### THE ELIMINATION OF UNDESIRABLE READING SELECTIONS

Schoolmen have long realized the fact that in reading classes much time and effort are wasted as a result of poorly selected subject matter. The purposes of this chapter are to present evidence drawn from teachers' and pupils' reactions to unsatisfactory selections, and, by analyzing several such selections, to show the reasons for their unsatisfactory character. Except for incidental treatment, selections unsatisfactory only in certain grades will not be discussed in this chapter.

#### EVIDENCES OF UNDESIRABILITY SHOWN IN THE STATEMENTS OF TEACHERS AND PUPILS

**The Most Undesirable Selections for Each Grade—Teachers' Statements.** Table XIV contains a list of the ten most undesirable selections for each grade as found in the first questionnaire together with the number of times that each selection was mentioned and the percentage of teachers reacting unfavorably to it. This table brings out the important fact that a large number of teachers are unanimous in their disapproval of forty-five selections contained in the readers they most frequently used in 1915, and that many additional selections are unsatisfactory to nearly all the teachers who mentioned them.

The undesirable qualities of these selections are mainly the following: *too mature*, *hard words*, *unfamiliar subject matter*, and *no story* or *lacks action*. All excepting two are said to be *too mature*. The frequencies of terms referring to over-maturity are greater than the sum of the frequencies of all other terms. These qualities recur in the comments on nearly every selection, while such terms as *too sad* or *monotonous* occur in the comments on only a few selections. Many of these selections appear in one or more of the most widely used

TABLE XIV

THE TEN MOST UNDESIRABLE SELECTIONS FOR EACH GRADE, THE NUMBER OF TEACHERS MENTIONING THEM AND THE PERCENTAGE UNFAVORABLE\*

GRADE I					
Selections	No. of teachers	Pct. unfavorable	Selections	No. of teachers	Pct. unfavorable
<i>Rose, Daisy, and Lily..</i>	15	100	<i>The Little Fairy.....</i>	9	89
<i>Breakfast Time.....</i>	8	100	<i>The Bagpipe.....</i>	9	89
<i>Whichever Way the</i>			<i>The House that Jack</i>		
<i>Wind doth Blow.....</i>	8	100	<i>Built .....</i>	8	89
<i>The Snowbirds.....</i>	7	100	<i>The White Lily.....</i>	17	88
<i>King Alfred and the</i>			<i>The Clever Jackal.....</i>	11	73
<i>Cakes .....</i>	7	100			
GRADE II					
<i>An Evening at Home...</i>	36	100	<i>The Leaf's Journey.....</i>	29	89
<i>My Nephew Philip.....</i>	19	100	<i>Ulysses and the Bag</i>		
<i>Blanche and her Aunt..</i>	16	100	<i>of Winds.....</i>	14	93
<i>Phaethon .....</i>	6	100	<i>Ana the Sun Fairy.....</i>	10	90
<i>Discontent .....</i>	28	96	<i>Sweet and Low.....</i>	10	90
<i>The Little Brook.....</i>	33	94			
GRADE III					
<i>The Maple.....</i>	22	100	<i>Climate .....</i>	9	100
<i>The Crow.....</i>	16	100	<i>The Flying Trunk.....</i>	40	97
<i>The Crab and the Moon..</i>	15	100	<i>The Mad Tea Party.....</i>	21	95
<i>The Cricket on the</i>			<i>The Wind and the Moon</i>	20	95
<i>Hearth .....</i>	12	100	<i>The Czar and the Angel.</i>	34	88
<i>Climbing up the Hill...</i>	11	100			
GRADE IV					
<i>The Factory Boy.....</i>	22	100	<i>Little Nell.....</i>	20	95
<i>Duty .....</i>	16	100	<i>The Last Lesson in</i>		
<i>Language .....</i>	15	100	<i>French .....</i>	18	95
<i>The Argonauts.....</i>	48	96	<i>Boyhood in the South...</i>	36	94
<i>The Whistle.....</i>	25	96	<i>The Declaration of</i>		
<i>Baron Münchhausen.....</i>	37	95	<i>Independence .....</i>	21	86
GRADE V					
<i>Industry .....</i>	27	100	<i>The Fairyland of Science</i>	9	100
<i>The Blessings of Poverty</i>	20	100	<i>Nuremburg .....</i>	31	97
<i>Lying .....</i>	15	100	<i>Titania and Oberon....</i>	44	96
<i>Sleep .....</i>	13	100	<i>Capturing the Wild</i>		
<i>The Whistle.....</i>	12	100	<i>Horse .....</i>	25	96
<i>Glimpses of the Great</i>					
<i>Commoner .....</i>	19	100			

\*Based on Questionnaire I.

## GRADE VI

Selections.	No. of teachers	Pct. unfavorable	Selections.	No. of teachers	Pct. unfavorable
<i>Good Books</i> .....	12	100	<i>The Death of Socrates</i> ..	11	90
<i>Bobolink</i> .....	10	100	<i>The Fairyland of</i>		
<i>Something about Books</i> .	10	100	<i>Science</i> .....	10	90
<i>Education</i> .....	9	100	<i>Elegy (Gray)</i> .....	9	89
<i>The Highest Aristocracy</i>	13	92	<i>Cranford (Selections)</i> ..	9	89
<i>The Contest between the</i>					
<i>Man and the Cannon</i> .	11	91			

## GRADE VII

<i>Early Conquests</i> .....	19	100	<i>The Fall of the House</i>		
<i>The Isle of the Fay</i> ....	19	100	<i>of Usher</i> .....	13	100
<i>Wealth</i> .....	16	100	<i>What Constitutes a</i>		
<i>What a Good History</i>			<i>State</i> .....	12	100
<i>Should Contain</i> .....	15	100	<i>Genius and Industry</i> ...	12	100
<i>The Character of</i>			<i>The Moral Rights of</i>		
<i>Columbus</i> .....	15	100	<i>Animals</i> .....	12	100
<i>The Character of</i>					
<i>Washington</i> .....	14	100			

## GRADE VIII

<i>The Renunciation of</i>			<i>Poor Richard's Almanac</i>	7	100
<i>Wisdom</i> .....	15	100	<i>Munera Pulveris</i> .....	19	95
<i>Wisdom and Prudence</i> ..	11	100	<i>Thanatopsis</i> .....	21	86
<i>Immutable Justice</i> .....	9	100	<i>Elegy (Gray)</i> .....	18	47
<i>To a Skylark</i> .....	9	100	<i>The Descent into the</i>		
<i>L'Allegro</i> .....	8	100	<i>Maelstrom</i> .....	47	47

newer readers. Of the eighty selections listed in Table XIV, seventeen are found in one series of readers, while four other series contain ten each. Teachers, in naming these eighty selections, referred to the versions found in fifteen different readers, six of which have been published since 1910. Probably there are unfortunate selections in all series of readers; if this be true, teachers should be asked to omit such selections unless special effort is to be made to make the selections successful.

Some of the selections in Table XIV were included in the lists of selections submitted in Questionnaire II. The percentages of unfavorable judgments then obtained are shown in Table XV. Table VIII shows the percentages of times that each undesirable quality was mentioned for these undesirable selections.



Two conclusions may be drawn at this point. First, selections which are not as satisfactory in one grade as in another can be better taught by placing them in the grades where there is less initial resistance by the pupils. Second, the experience of teachers indicates that such selections as Gray's *Elegy*, *The Fall of the House of Usher*, *Nuremburg*, and *The Czar and the Angel* have no place in the elementary school reading course.

**Pupils' Statements.** Table XVI shows both teachers' and pupils' reactions to selections which are often judged adversely. In addition to the selections listed in the earlier tables of this chapter, three others not usually favored by teachers are here included. The version of *Baron Münchhausen* read by the pupils was different from that which the teachers judged; this fact may account for its better showing with pupils<sup>1</sup>. In general, however, pupils' judgments support those of teachers; both agree that these passages are undesirable for the grades in which they are used if not for any of the elementary school grades.

TABLE XV

THE PERCENTAGES OF TEACHERS IN THE SECOND QUESTIONNAIRE WHO JUDGED UNFAVORABLY THE SELECTIONS WHICH HAD BEEN UNFAVORABLY JUDGED IN THE FIRST QUESTIONNAIRE\*

Selections	Grade	Number of Teachers Judging	Percent Unfavorable
<i>The House That Jack Built</i> *....	I	52	21
<i>A Clever Jackal</i> * .....	I	41	20
<i>Phaethon</i> * .....	II	42	21
<i>Sweet and Low</i> .....	II	66	14
<i>The Cricket on the Hearth</i> *....	III	29	45
<i>Czar and Angel</i> *.....	III	24	37
<i>The Flying Trunk</i> *.....	III	31	23
<i>Phaethon</i> *.....	III	42	14
<i>Cricket on the Hearth</i> .....	IV	32	59
<i>Baron Münchhausen</i> *.....	IV	24	46
<i>Last Lesson in French</i> * .....	IV	31	42
<i>The Argonauts</i> * .....	IV	34	38
<i>Phaethon</i> * .....	IV	35	3
<i>Nuremburg</i> .....	V	23	83

<sup>1</sup> The version of the *Münchhausen* tales presented to pupils is closely similar to that contained in the Merrill readers.

TABLE XV—Continued.

	Grade	Number of Teachers Judging	Per Cent Unfavorable
<i>The Blessings of Poverty*</i> .....	V	14	57
<i>Titania and Oberon*</i> .....	V	23	48
<i>Baron Münchhausen</i> .....	V	33	30
<i>Phaethon</i> .....	V	36	3
<i>Gray's Elegy</i> *.....	VI	40	82
<i>The Cricket on the Hearth</i> ....	VI	32	34
<i>Cranford*</i> .....	VI	21	33
<i>Baron Münchhausen*</i> .....	VI	29	31
<i>Gray's Elegy</i> *.....	VII	43	49
<i>The Cricket on the Hearth*</i> ....	VII	22	38
<i>Cranford</i> .....	VII	23	30
<i>The Fall of the House of Usher*</i>	VII	23	65
<i>What Constitutes a State*</i> .....	VII	34	26
<i>Thanatopsis*</i> .....	VII	44	64
<i>Gray's Elegy</i> *.....	VIII	43	56
<i>The Cricket on the Hearth*</i> ...	VIII	29	7
<i>House of Usher*</i> .....	VIII	26	54
<i>Thanatopsis*</i> .....	VIII	47	43
<i>L'Allegro*</i> .....	VIII	28	64
<i>Descent into the Maelstrom*</i> ...	VIII	27	7

\*Selections marked with an asterisk were also mentioned by teachers of the respective grades as the most undesirable selections in the list for the grades.

TABLE XVI  
COMPARATIVE OPINIONS OF TEACHERS AND PUPILS REGARDING SELECTIONS WHICH ARE OFTEN JUDGED AS UNDESIRABLE. THE PERCENTAGES UNFAVORABLE ARE SHOWN FOR QUESTIONNAIRE I, QUESTIONNAIRE II, AND PUPILS

Selections	Grades											
	III		IV		V		VI		VII		VIII	
	Q1	Q2 Pu	Q1	Q2 Pu	Q1	Q2 Pu	Q1	Q2 Pu	Q1	Q2 Pu	Q1	Q2 Pu
<i>Phaedra</i> .....	75	14 35	--	3 39	---	-- 22	---	-- 31	---	-- 26 16	--	-- 16
<i>Baron Münchhausen</i> .....	--	--	--	46 --	100	30 --	---	-- 69	---	100 26 56	--	-- 3 45
<i>What Constitutes a State?</i> .....	--	--	--	--	100	70 --	100	-- 69	82	17 66	12	7 66
<i>The Chambered Nautilus</i> .....	--	--	--	--	---	11 48	50	-- 47	---	-- 45	--	-- 45
<i>Abou Ben Adhem</i> .....	--	--	--	37 --	---	62	---	-- 53	---	12 31	--	-- 34
<i>Ereclstor</i> .....	--	61	100	62 63	100	40 62	---	--	---	--	--	--

## ANALYSIS OF UNDESIRABLE READING SELECTIONS

In order to show more fully the reasons for the unsatisfactory character of the subject matter discussed in this chapter, analyses of several selections have been made.

**The Whistle.** Our analysis begins with a selection which has for several generations been found in readers and has given rise to one of our popular sayings. This selection, *The Whistle*, by Benjamin Franklin, was mentioned unfavorably thirty-seven times in the first questionnaire for Grades IV and V and favorably only once. Excepting two fifth-grade teachers who say that their pupils are tired of it, all refer only to its hard words and over-maturity. It is contained in substantially the same form so far as content is concerned in books four and five of two widely used series of readers and in the fifth book of another series published for use in a single state.

In looking for difficult words, one finds in a fifth-grade version the following expressions which might be new or troublesome for many pupils: *directly, voluntary, vexation, reflection, chagrin, ambitious, court favor, sacrificing, levees, popularity, political bustles, benevolent, accumulating, man of pleasure, audible, corporeal, sensations, appearance, equipages, and contracts debts*. In the version intended for Grade IV, only a few of these expressions remain: *directly* is changed to *at once*; *voluntary* is omitted; *reflection* is changed to *thought of it*; *chagrin* is changed to *shame*; *ambitious, sacrificing, court favor, levees, popularity, and political bustles* are avoided by omitting the sentences containing them; *accumulating* is changed to *heaping up*. The sentence reading, "When I see a man of pleasure, sacrificing every laudable improvement of mind or of his fortune, to mere corporeal sensations," etc., is changed to "When I see a man neglecting the improvement of his mind, wasting his fortune," etc. The remainder of the difficult expressions are avoided in the fourth-grade book by omitting two other sentences.

In the use of the fifth-grade selection, approximately twenty expressions would need explanation to pupils of that grade. Assuming that a few words should be added to the pupils' vo-

cabulary, we might argue that this list is not too long. Here, however, we meet with another difficulty, namely, the sentence structure. The second sentence of the fifth-grade version reads as follows: "I went directly to a shop where they sold toys for children, and being charmed with the sound of a whistle that I met by the way in the hands of another boy, I voluntarily offered and gave all my money for one." The fourth-grade version divides and otherwise simplifies this sentence. This involved style persists throughout the fifth-grade version.

The fifth-grade pupils are thus confronted with examples and applications drawn from adult life, by many difficult words, and many difficult sentence constructions. The closest observers of pupils of this grade, namely, the teachers, report that the pupils do not react favorably to the anecdote in this form.

**The Island of the Fay.** Two selections from Poe appear among those which seventh-grade teachers find unsuitable for teaching purposes. The excerpt from *The Fall of the House of Usher* is referred to in every case in connection with one of the older series of readers. *The Island of the Fay* as found in one of the newer series of readers is mentioned by nineteen teachers, all of whom judged it adversely. The reasons for such judgment are as follows: *lacks action, unreal, unfamiliar subject matter, hard words, and over-maturity.*

An analysis of this selection shows clearly the source of some of the difficulties. The demands made upon the imagination are not beyond the powers of many pupils of this age, but, as commonly taught in this grade, they are beyond the reach of most of the pupils. That is to say, such a selection as this requires a careful assignment—such an assignment as it is not always possible to arrange, or else a well-conducted "study lesson." The pupil who, without such preparation, begins reading this passage is supposed to pass suddenly from his school world into a very unreal situation. Only those pupils who can readily follow a writer upon one of his "lonely journeyings amid a far distant region of mountain locked within mountain, and sad rivers and melancholy tarns writhing or sleeping within all"—only such pupils are able to place themselves in the attitude needed for the appreciation of the story. The brief

introduction to the scene straightway described contains several phrases which are of slight if any significance to one who cannot readily imagine the appearance of hidden mountains, sad rivers, and writhing tarns. These references constitute for most pupils unfamiliar subject matter and need more than mere explanatory treatment. Such explanatory treatment is probably necessary, but it needs to be supplemented or preceded by an emotional preparation. This emotional preparation would place the pupils in possession of an attitude which many of them may at some time in their lives have assumed while contemplating a situation which was in certain of its aspects similar to Poe's imaginary islet. The possibility of such a preparation is, it seems, a measure of the probable success of this selection with the average class. The probability of such a treatment by the teacher in a given school can be judged by the superintendent or the principal. Several things may prevent teachers from giving such a preparation: lack of personal interest in the passage, lack of time for their own preparation or for presentation, or lack of ability to inspire interest in such a situation. Also, the suggestions given in manuals for the teaching of such passages as this do not usually lead one to think of anything except the explanation of meanings. At this point we approach the problem of method, which is not the problem of our investigation.

**Capturing the Wild Horse.** The lack of movement might be suggested as another fault of the selection just analyzed. That the presence of movement does not, however, ensure interest is shown by an analysis of the fifth-grade selection entitled *Capturing the Wild Horse*<sup>2</sup>. Instead, the fault throughout this passage seems to be that it deals with a type of imagination to which a careful preparatory appeal must be made if the selection is to be successful. This selection contains "action," is well told, and tells about a hunting expedition involving large game. It is, notwithstanding these good qualities, judged as a poor teaching selection by ninety-six per cent of the teachers who mention it. The reasons assigned for such judgments are two: *hard words* and *over-maturity*.

<sup>2</sup> From Washington Irving's *A Tour on the Prairies*.



All the references to the tale are to the version contained in one of the newer readers.

In criticizing this selection, we may analyze it and also compare it with successful ones. In the reader containing the selection, there is, immediately following it, a well-selected list of twenty-seven words for the study of pronunciation and of thirty-eight words and phrases for the study of meanings. The tale is approximately four pages in length. There is, therefore, according to the editor's judgment, an average of about twenty difficult words or phrases per page. There are thirty-five lines per page. One questions whether pupils should be asked to read material which averages more than one major difficulty per sentence as this does. The question is the more troublesome when one notes that the selection contains no "childish" material which would prevent its use being postponed. The words and phrases listed for special study vary in difficulty, but there are many which would tax severely an eighth-grade pupil.

The adventure here reported is one in which only adults participate. No references are made to children. The adventure is not one about which fifth-grade pupils are likely to have clear notions. Many children have, however, contemplated a solitary existence in the midst of many natural and artificial goods such as surrounded Robinson Crusoe when he was shipwrecked on foreign seas. Crusoe's adventures are replete with the things children do or about which they have had many discussions and thoughts. The capturing of a wild horse might be made equally interesting by approaching it with a consideration of so interesting a project as getting wild horses for a circus or for riding. The selection does not contain such references to a familiar background as run through the account of Robinson Crusoe.

The tale of the capture of the wild horse may be compared with another favorite tale. Such a tale is the *Story of Robin Hood* which also appears in the reader containing the account of the wild horse. In spite of many difficult words or new words such as *abbey*, *jousts*, *Justiciar*, and *tryst*, the *Story of Robin Hood* is named as a favorite selection. Reasons given

for the popularity of this story are that it portrays adventure involving the child life of Little John, knighthood, heroism, and kindness, and raises interesting problems such as questions regarding group loyalty and kindness to the weak and the poor.

*The Capturing of the Wild Horse* is handicapped by a lack of such appeals. Capturing wild horses and training them to perform marvelous feats would give the narrative a human appeal. Such interests as it caters to come later in children's development, but even then tales of Rip or Ichabod with their play upon human shortcomings and superstitions are much more certain of a favorable hearing. Pupils care very little about the outcome of the wild horse hunt; a selection which does not compel the reader to finish it must always take its chances with school pupils as it has to with the general reading public. A few persons will finish fine literary selections partially for the literary merit; teachers' judgments indicate, however, that school pupils will not appreciate literature better as a result of having read passages in which attention flags as it does in this selection.

**What Constitutes a State.** The poem entitled *What Constitutes a State* has been unfavorably received by teachers. The criticisms indicate that the selection is *too mature, too didactic*, and that it contains *symbolism* and *words* which are *too difficult*. Pupils made similar criticisms and also showed by their answers to questions that the passage is too difficult for them. Reasons for the difficulties mentioned are found in nearly every line of the poem. Such phrases as *labored mound, moated gate, turrets crowned, broad armed ports, laughing at the storm, spangled courts*, and *perfume to pride* occur in lines two to eight at the rate of two per line. These examples of difficult words and difficult symbolism show that a great deal of explanation is needed to enable pupils to understand merely the opening lines. The following questions were asked of the pupils in order to test their comprehension of such phrases as those just quoted:

How do rich navies laugh "at the storm"?

What is meant by the "state's collected will"?

The first of these questions was answered correctly by the following percentages of pupils of Grades VI, VII, and VIII, respectively: 50 per cent, 48 per cent, and 54 per cent; the second question, by the following percentages: 21 per cent, 58 per cent, and 28 per cent. Avoidance of this passage is recommended by many teachers, while less than 50 per cent of the pupils of Grades VI and VII enjoy or understand it.

**Thanatopsis.** Bryant's *Thanatopsis* is so widely used and is disliked by so many teachers that it deserves analysis. *Over-maturity*, *abstractness*, and *sadness* are its alleged defects. The well-known opening of this selection exemplifies the undesirable qualities. First, the sentence order is very unusual. Second, there are several difficult phrases, as Nature's "various language," "communion," and "her visible forms." These phrases conceal the antecedent of "him" in the first line, and confuse the pupil by difficult content and style.

The second sentence begins with the brooding thought of the "last bitter hour," and "sad images of stern agony," phrases which, in the opinion of some teachers, had better pass unexplained. The next sentence warns the reader that the "Earth that nourished thee, shall claim thy growth, to be resolved to earth again." These lines are also quite out of keeping with the things which teachers find interesting to pupils. There are, of course, pupils and teachers who are not averse to these dismal forebodings. Unless, however, a supervisor has strong reasons for believing that an extraordinarily large percentage of his teachers belong to the group favorable to the poem, he should heed the warning of about 50 per cent of the teachers who find it unsatisfactory.

**The Fairyland of Science.** An informational selection giving difficulty to sixth-grade teachers is *The Fairyland of Science*. An analysis of it shows a number of faults. First, pupils of Grade VI may secretly enjoy fairy tales, but the clear reference of the title to a childish type of appeal is not conducive to interest. The next unfavorable suggestion comes in the first sentence, where the reader is reminded of the common impression that science is "a bundle of dry facts." The next sentence announces the author's attempt to prove that

this common belief is incorrect. The really interesting material of this selection is further burdened with subsequent references to fairyland: "Tell me, why do you love fairy land? What is its character?" etc. This style which is believed to be suitable for children just because it employs references which fit pupils of Grades II to IV gives the impression that the selection is "written down" for children. If there is anything which pupils of Grade VI desire to escape, it is the suggestion that they are still children. Sixth-grade pupils' judgments show that the tale of Aladdin is very interesting to them, although many add that they are "pretty old for fairy tales." In *The Fairyland of Science*, however, the pupils are told that "wherever they wander," when old as well as when young, these fairies—fabrications for little folk—will follow them. In contrast with the lack of success of this selection is the success of other informational material which is written in a virile unpatronizing style<sup>3</sup>.

**The Crow.** One of the most unsuccessful selections in the newer readers is an adaptation of one of John Burroughs' essays, and is entitled *The Crow*. This nature-study selection is mentioned sixteen times in the responses to the first questionnaire and each time unfavorably. Its alleged faults are *over-maturity* and *lack of story or action*.

An analysis of this passage in comparison with a favorite for the same grade shows that the diction of the two selections is about alike in difficulty. In the first paragraph of *The Crow*, the pupils would need a little help in understanding the phrase, "the air of a lord of the soil." Beyond this, few phrases or words require explanation to the average third-grade class. The selection does not deal with abstractions. The subject matter can be readily understood by pupils.

The content presented about the crow's life consists of the following: leaving meat near a window for a crow; the crow carrying the meat away; the crow lighting on the ground and beginning to eat; a fellow-crow coming near; a struggle expected but avoided; the first crow making a "gesture" and

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<sup>3</sup> See Chapter VII for an account of the success of other informational literature.

flying away without the meat; the second crow flying to the meat and starting to eat; the return of the first crow; division and carrying away of the meat. The second part of the selection continues: the crow's attitude toward a trap; trying to feed a crow by placing meat on the branch of a tree; a careful investigation for three days by two crows; a portion of meat eaten on the third day; the position of the meat changed to a fork in the tree and later to the ground; "but they grew more and more afraid of it"; a dog carrying away the meat; and finally the crow quitting the tree.

Although similar attempts to feed birds are made by many children in winter, the selection is uninteresting. Nothing unusual happens, or rather the lack of action in at least two places is the most unusual characteristic of this passage. The ending gives a particularly strong impression of a desire to finish the narrative: "Finally, the dog carried off the bone, and the crows stopped visiting the tree." Such an ending is in marked contrast with the closing of the successful story of the *Knights of the Silver Shield* which follows the selection under discussion in the reader. In this account of knights, the "golden star" was, at the end of the battle, "still shining," and the lord of the castle addressed the knights as follows: "Sir Roland has fought and won the hardest battle of all today." It is noteworthy that Sir Roland did not lay down his shield for some straggler to find, but that a definite objective was attained, and, with the portrayal of a feeling of victory, this superior selection closes. These comments and comparisons indicate the reasons for the teachers' criticism of the lack of action in *The Crow*.

**The Clever Jackal.** Despite children's keen interest in animal play, we find among the least liked selections one entitled *The Clever Jackal*. The version always referred to in the responses to the first questionnaire is in one of the newest series of readers and has three attractive illustrations. Criticisms of the selection are as follows: *over-mature, hard words, unfamiliar subject matter, unreal, monotonous, too long, and portrays bad morals.*



The length and monotony are incidental faults inherent in this particular selection; favorite selections as *The Three Bears* and *Three Billy Goats Gruff* are no shorter and contain no less repetition. The difference between *The Clever Jackal* and the favorite selections is that the latter are interesting and, therefore, neither too long nor monotonous.

The story of the jackal runs as follows: A jackal lived near a river to which he went to find some crabs for his dinner. He put his paw into the water to catch a crab, "And snap! a big Alligator had the paw in his mouth." From this time on the alligator tried to capture the clever animal, but always the jackal was wiser. At last, the jackal came home one day and found the alligator. Instead of trying to overcome his mortal enemy by combat the jackal piled wood in front of the door and burned the house and along with it the alligator.

The alleged portrayal of bad morals consists of the deceit practiced on the alligator. For example, when the jackal's paw was caught, he laughed at the alligator for mistaking for a jackal's paw the reeds growing in the river: "So the Alligator opened his mouth and let the little jackal go." Both animals are involved in trickery: the one in order to capture and the other to avoid being captured. Without being prudish, one can detect underhanded diplomacy in the tale.

The unfamiliarity of subject matter is probably due to pupils' common ignorance of river and alligator scenes. Also, over-maturity of content is found in the crafty plans for capturing and remaining free. Children who have difficulty with the general setting will encounter more difficulty when they try to follow these plans.

Rose, Daisy, and Lily. The first-grade selection entitled *Rose, Daisy, and Lily* is disliked by all the teachers who mention it. *Lack of action*, *hard words*, and *over-maturity* are its faults. This three-page selection consists of (1) a description of Rose, Daisy, and Lily growing side by side in a beautiful garden and (2) a conversation about where they spent the winter excepting that Daisy, in the spring, does not know where she was.



Lack of action is an obvious characteristic of this selection. Action might readily be introduced by an animated introduction, by correlated nature study, or by dramatization. Hard words are found in several lines: *Daisy, beautiful, garden, these, alone, flowers, around, none, bright-eyed, winter, white, indeed, asleep, awake, shining, brightly, felt, melting, violet, blossoming, and leaves*. Drill upon the following words is provided by a word list which precedes the lesson: *these, felt, melting, would, sun, none, and indeed*. The other words just cited occur in earlier selections in the reader or are preceded by words upon the same bases: *blossoming* is preceded by *blossom, around* by *round*, etc. The context of nearly all these words is familiar to the pupils. The only new word which may not have been used is *indeed*. The teachers' criticism seems, therefore, to result from the lack of drill upon the words as they occur in the reader or the lack of interesting content which might carry pupils over otherwise difficult passages.

The content of this selection presents objects of nature in a personified form: flowers are growing in company with their friends and have their periods of rest and of blossoming. Such tales are supposed to be interesting to children. If a selection is unsatisfactory after meeting these requirements, the difficulty may result from the large amount of teaching necessary for its success. In this respect, this selection is well prepared for by three preceding selections upon similar matter which ensure familiarity. The flowers themselves would be interesting to children. The conversation of the flowers is not difficult to follow. *Lack of interesting action, hard words, and over-maturity of content* as alleged against this selection may be due to a lack of enthusiasm on the part of teachers; at any rate, the teachers do not report success.

An analysis of unsatisfactory selections with reference to the presentation of the optimal number of new words per page or per lesson has not been attempted in the present investigation. Such an analysis would involve a tabulation of the words presented in both basal and supplementary readers and is obviously impossible with the kind of data at hand. A more important reason for avoiding such an analysis is that

hard or new words present difficulties according to pupils' interest in the material read, and not merely in proportion to their number. Hard words frequently constitute only an incidental difficulty. Evidence of this fact may be seen by comparing the difficulty of the words contained in the superior selections analyzed in the following chapter with the words contained in the inferior selections analyzed in the present chapter.

A sufficient number of inferior selections have been discussed in detail to illustrate the meaning of the term "undesirable reading selections." These analyses lead to the following conclusions regarding the material which teachers and pupils designate as undesirable.

#### CONCLUSIONS

Only in exceptional cases can teachers interest their pupils in the selections judged undesirable.

Teachers agree with regard to the undesirability of these selections.

These selections require explanation and analysis by the teachers, and therefore necessitate slow reading in class, make silent reading difficult if not impossible, and lead to verbalism and formalism as a result of attempts to force conceptions of adults upon children insufficiently prepared for them.

In view of the great mass of valuable literature which pupils can understand and would probably enjoy, the use of undesirable material in elementary schools cannot be defended upon the basis of social demands or the lack of an adequate amount of desirable material.

## CHAPTER VI

### THE DETECTION OF SUPERIOR READING SELECTIONS

In the questionnaires and the direct investigation of pupils, many evidences of the outstanding qualities of superior reading selections appear. The purpose of this chapter is to formulate norms for use in detecting superior reading matter. To this end data from teachers and pupils are presented after which several representative superior selections are analyzed.

#### EVIDENCES OF DESIRABILITY SHOWN BY STATEMENTS OF TEACHERS AND PUPILS

**The Most Desirable Selections for Each Grade.** Attention was called in Chapter IV to the variations in the frequencies of qualities from grade to grade and to the qualities which seem to be the determinants of superiority. The interest of children in these qualities depends so largely upon the form of material read that one hesitates to say that pupils of any grade will be uninterested in selections possessing these qualities. For there are, as examples, animal stories and stories of animal play which are favorites in the lower grades, as *Patrasche* is in the intermediate and Muir's *Stickeen* in later grades. Likewise with *interesting repetition*, adults are attracted by repetition such as that found in some of Poe's poems and in certain famous orations. Furthermore, pupils of Grade I are interested in information applicable to their activities. The discussion of qualities, therefore, leads to the question of availability of types of reading matter of suitable difficulty. The qualities whose frequencies are high throughout the grades are *interesting action* and *character, adventure, humor, easy content, easy diction, and portrayal of the supernatural* and of *kindness, faithfulness, and loyalty*. The persistent frequencies of these qualities indicate that superior selec-

tions for any grade possess them. The large frequencies of *easy* or *familiar* emphasize the fact that over-maturity of reading matter is very common.

In Table XVII are catalogued selections judged superior by either teachers or pupils or both. These lists show typical selections to which a large number of reactions have been obtained. The arbitrary standard of superiority set up before making this table admits only the selections favored by 90 per cent or more of the teachers judging them and both favored and comprehended by 80 per cent or more of the pupils who reported upon them. This standard admits practically all selections which stood high in either of the questionnaires. Some selections have been placed in only the grades where the highest percentage of favorable judgments were obtained although high percentages were also obtained in other grades; that is, selections were placed in the grades in which there was evidence of their being from every point of view most superior.

A significant value of Table XVII appears when it is studied in connection with Table V of Chapter III. Such a comparison shows that wide use of many selections antedates by several grades the grade in which those selections are superior according to the standard here set up. For example, *Paul Revere's Ride* is superior in Grades VII and VIII, although it is used in Grade IV. Similarly, *The Barefoot Boy* is used in Grades III to VIII in spite of the fact that it does not rise to the standard of superiority until Grade VII. Other selections show similar misplacements and will be discussed in Chapter IX.

**Comparative Opinions of Teachers and Pupils.** Table XVIII indicates close agreement between teachers and pupils. The percentage of teachers favoring a selection usually exceeds that of the pupils because the pupils passed their judgments before class study while teachers passed theirs afterwards.

TABLE XVII  
SUPERIOR SELECTIONS FOR ALL GRADES\*

## GRADE I

<i>The Gingerbread Boy</i>	<i>The Old Woman and Her Pig</i>
<i>The Three Bears</i>	<i>Lambikin</i>
<i>The Three Little Pigs</i>	<i>Sing a Song of Sixpence</i>
<i>Three Billy Goats Gruff</i>	<i>The Clouds</i>
<i>The Boy and the Goat</i>	<i>What Does Little Birdie Say</i>
<i>The Little Red Hen</i>	<i>The Swing</i>
<i>Cinderella</i>	<i>My Dream</i>
<i>Little Boy Blue</i>	<i>My Shadow</i>
<i>The Elves and the Shoemaker</i>	<i>The North Wind</i>
<i>The Lion and the Mouse</i>	<i>Our Flag</i>
<i>Henny Penny</i>	<i>The Star</i>
<i>How Patty Gave Thanks</i>	<i>The Squirrels</i>
<i>The Pancake</i>	<i>The Little Plant</i>
<i>The Crow and the Pitcher</i>	<i>Playing in the Snow</i>
<i>The Little Steam Engine</i>	<i>Snowbirds</i>
<i>The Hare and the Tortoise</i>	<i>Snowflakes</i>
<i>Tom and the Wind</i>	<i>Santa Claus</i>
<i>Johnny Cake</i>	<i>Who Is It? Santa Claus?</i>
<i>Tom, Tom the Piper's Son</i>	<i>The Night Before Christmas</i>
<i>The Bremen Band</i>	<i>The Caterpillar</i>
<i>Christmas Morning</i>	

## GRADE II

<i>The Bremen Band</i>	<i>When the Little Boy Ran Away</i>
<i>The Three Bears</i>	<i>The Little Red Hen</i>
<i>The Three Little Pigs</i>	<i>Ruff's Adventure</i>
<i>Cinderella</i>	<i>Columbus</i>
<i>Three Billy Goats Gruff</i>	<i>Nathan and the Bear</i>
<i>Little Red Riding Hood</i>	<i>Who Became King</i>
<i>How Mrs. White Hen Helped</i>	<i>Mr. and Mrs. Leghorn to the</i>
<i>Rose</i>	<i>Rescue</i>
<i>Lambikin</i>	<i>The Doll's Thanksgiving Dinner</i>
<i>Epaminondas and His Auntie</i>	<i>The Ant and the Grasshopper</i>
<i>The Robbers</i>	<i>Belling the Cat</i>
<i>The Crow and the Pitcher</i>	<i>The Golden Touch</i>
<i>Androclus and the Lion</i>	<i>My Shadow</i>
<i>The Magpie's Lesson</i>	<i>The Swing</i>
<i>The Hare and the Tortoise</i>	<i>Our Flag</i>
<i>Town Mouse and Field Mouse</i>	<i>I Saw a Ship a-Sailing</i>
<i>The Old Woman and Her</i>	<i>Who Has Seen the Wind?</i>
<i>Sixpence</i>	<i>Sleeping Beauty</i>
<i>Jackal and Alligator</i>	<i>Henny Penny</i>
<i>Hans in Luck</i>	<i>Billy Binks</i>

## GRADE III

<i>The Tar Baby</i>	<i>The Fairy Wand</i>
<i>Robinson Crusoe</i>	<i>Washington's Boyhood</i>
<i>The Leak in the Dike</i>	<i>David the Slinger</i>
<i>Hans the Shepherd Boy</i>	<i>St. George and the Dragon</i>
<i>The Wishing Gate</i>	<i>Brownies and the Cook</i>
<i>Dick Whittington and His Cat</i>	<i>Irene the Idle</i>
<i>Aladdin and the Wonderful Lamp</i>	<i>Hans Who Made the Princess Laugh</i>
<i>The Elves and the Shoemaker</i>	<i>The Three Wishes</i>
<i>The Golden Cups</i>	<i>Pandora's Box</i>
<i>The Bell of Atri</i>	<i>Wynken, Blynken, and Nod</i>
<i>William Tell</i>	<i>The Boy, the Bees, and the British</i>
<i>The Golden Touch</i>	<i>Black Beauty</i>
<i>Sleeping Beauty</i>	<i>The Skylark's Spurs</i>
<i>Knights of the Silver Shield</i>	<i>The Brownies</i>
<i>Knights of the Silver Arrows</i>	

## GRADE IV

<i>Knights of the Silver Shield</i>	<i>Tom, Dick, and Harry</i>
<i>Knights of the Silver Arrow</i>	<i>The Wishing Gate</i>
<i>How Cedric Became a Knight</i>	<i>Patrasche</i>
<i>Florinda</i>	<i>The Brave Boy's Adventure</i>
<i>Black Beauty</i>	<i>A Boy Hero</i>
<i>Dick Whittington and His Cat</i>	<i>The Magic Prison</i>
<i>The Little Post-boy</i>	<i>Snow White and Rose Red</i>
<i>Maggie Visits the Gypsies</i>	<i>The First Thanksgiving</i>
<i>Beowulf, the Brave Prince</i>	<i>A True Story About Leo</i>
<i>William Tell</i>	<i>The Twelve Months</i>
<i>The Little Acadian</i>	<i>Alexander and Bucephalus</i>
<i>Robert of Lincoln</i>	<i>Inchcape Rock</i>
<i>Roland the Noble Knight</i>	<i>The History of Tip-Top</i>
<i>Out to Old Aunt Mary's</i>	<i>Aladdin and the Wonderful Lamp</i>
<i>Tillie's Christmas</i>	

## GRADE V

<i>Robin Hood</i>	<i>Ulysses at the Cyclops</i>
<i>The Nurnberg Stove</i>	<i>William Tell</i>
<i>The King of the Golden River</i>	<i>Beautiful Joe</i>
<i>Aladdin and the Wonderful Lamp</i>	<i>A Brave Boy</i>
<i>Hiawatha</i>	<i>The Simple Old Man</i>
<i>Maggie Visits the Gypsies</i>	<i>The Village Blacksmith</i>
<i>Arabian Nights (Selections)</i>	<i>Gulliver's Travels</i>
<i>The Leak in the Dike</i>	<i>Tom the Chimney Sweep</i>
<i>How Cedric Became a Knight</i>	<i>The Archery Contest</i>
<i>Robinson Crusoe</i>	<i>The Sportsman</i>
	<i>Cosette</i>



## GRADE VI

<i>The King of the Golden River</i>	<i>Robin Hood</i>
<i>Kentucky Belle</i>	<i>The Simple Old Man</i>
<i>Hiawatha</i>	<i>Birds of Killingworth</i>
<i>The Legend of Bregenz</i>	<i>The Arrow and the Song</i>
<i>The Bishop and the Convict</i>	<i>The Sandpiper</i>
<i>Sir Kenneth and the Flag</i>	<i>William Tell</i>
<i>Gulliver's Travels</i>	<i>The Pied Piper of Hamelin</i>
<i>Midget, the Return Horse</i>	<i>Horatius at the Bridge</i>
<i>Tom and Maggie</i>	<i>Christmas at the Cratchits'</i>

## GRADE VII

<i>Rip Van Winkle</i>	<i>The Legend of the Moor's Legacy</i>
<i>The Courtship of Miles Standish</i>	<i>Horatius at the Bridge</i>
<i>Evangeline</i>	<i>Christmas at the Cratchits'</i>
<i>Snowbound</i>	<i>To a Waterfowl</i>
<i>The Day Is Done</i>	<i>The Sandpiper</i>
<i>King Robert of Sicily</i>	<i>The Death of Baldur</i>
<i>The Man Without a Country</i>	<i>Marmion and Douglas</i>
<i>King Arthur Stories</i>	<i>Mr. Pickwick's Slide</i>
<i>The Barefoot Boy</i>	<i>Birds of Killingworth</i>
<i>Paul Revere's Ride</i>	<i>Before Coins Were Made</i>
<i>The Pied Piper of Hamelin</i>	<i>The Minting of Coins</i>
<i>How They Brought the Good News</i>	<i>Paper Money</i>
<i>William Tell</i>	<i>Money in the Home and the Community</i>

## GRADE VIII

<i>Evangeline</i>	<i>Marmion and Douglas</i>
<i>Snowbound</i>	<i>Oh Captain, My Captain</i>
<i>Paul Revere's Ride</i>	<i>How I Killed a Bear</i>
<i>The Barefoot Boy</i>	<i>A-hunting of the Deer</i>
<i>The Man Without a Country</i>	<i>The Gettysburg Address</i>
<i>Rip Van Winkle</i>	<i>The Prairie Fire</i>
<i>The Legend of Sleepy Hollow</i>	<i>Herve Riel</i>
<i>The One-hoss Shay</i>	<i>The Building of the Ship</i>
<i>Christmas at the Cratchits'</i>	<i>The Great Stone Face</i>
<i>The Courtship of Miles Standish</i>	<i>Julius Caesar</i>
<i>Birds of Killingworth</i>	<i>The Skeleton in Armor</i>
<i>The Heritage</i>	<i>The Cricket on the Hearth</i>
<i>Raleigh's Coat</i>	<i>Randolph and Douglas</i>
<i>Mr. Pickwick's Slide</i>	<i>Before Coins Were Made</i>
<i>The Splendor Falls</i>	<i>The Minting of Coins</i>
<i>The Sandpiper</i>	<i>Paper Money</i>
<i>The Daffodil</i>	<i>Money in the Home and the Community</i>
<i>The Revenge</i>	

\*Selections mentioned favorably by less than ninety per cent of the teachers judging them are excluded from this table. These selections were judged by representative numbers of teachers in one or both of the questionnaires. Some of the selections in the lists for Grades III to VIII were also judged by pupils.

TABLE XVIII  
COMPARATIVE OPINIONS OF TEACHERS AND PUPILS REGARDING SELECTIONS WHICH ARE JUDGED AS SUPERIOR\*

Selections	Grades															
	III		IV		V		VI		VII		VIII					
	Q I	Q II	Pu	Q I	Q II	Pu	Q I	Q II	Pu	Q I	Q II	Pu	Q I	Q II	Pu	Pu
<i>The Leak in the Dike</i> .....	---	100	97	100	99	96	100	99	99	---	---	---	---	---	---	---
<i>The Village Blacksmith</i> .....	---	---	---	100	94	91	100	97	97	---	---	---	---	---	---	---
<i>The Barefoot Boy</i> .....	---	---	---	---	---	---	91	96	87	---	---	---	---	93	99	---
<i>Dick Whittington</i> .....	100	97	89	---	99	91	---	---	---	---	---	---	---	---	---	---
<i>Cosette</i> .....	---	---	---	93	99	80	90	---	---	---	---	---	---	---	---	---
<i>Aladdin</i> .....	100	95	86	94	66	87	90	98	93	---	---	---	---	---	---	---
<i>Paul Revere's Ride</i> .....	---	---	---	93	97	87	---	---	---	---	---	---	---	---	---	---
<i>The One-hoss Shay</i> .....	---	---	---	---	---	---	97	92	---	---	---	---	---	---	---	---
<i>Gettysburg Address</i> .....	---	---	---	---	---	---	---	---	---	100	76	---	100	98	82	---
<i>Christmas at Crutchits'</i> .....	---	---	---	---	---	---	---	---	---	92	82	---	---	100	82	---
	---	---	---	---	---	---	97	90	84	97	99	86	---	98	90	---

\*The table shows the percentages of teachers responding favorably in Questionnaires I and II and the percentages of pupils who reacted favorably to the selections.

In all cases shown in Table XVIII the percentages of pupils and teachers responding favorably are high enough to indicate successful use of the selections. Three lines of evidence point, therefore, to the superiority of these selections: (1) those who administer the elementary reading course chose them as the representative of the best material in their readers; (2) high percentages of the same kind of judges also reported favorably upon them when asked specifically about them; and (3) pupils' reactions are favorable even before class study. So far then as interest is concerned, these materials are quite satisfactory to pupils as well as to teachers.

Many of the selections of Table XVII appear in the lists of more than one grade. This means that they would nearly "teach themselves" in the grades in which they are listed. In case of many of these selections a different version may be found in each of the series of readers containing them, but interest in them indicates that they contain plots, forms of action, or other content which may be successfully used in any of the grades indicated if written in a style adapted to the child's control of the mechanics of reading as attained in the respective grades. This type of selection is exemplified in *The Bremen Band*, *Aladdin*, *Tales of Robin Hood*, and *Robinson Crusoe*. Occasionally, a version of one of these tales is unfortunate. The clearest case of this kind is that of *The Clever Jackal* which, in one version, is one of the poorest selections for Grade I and, in a different version, one of the best for Grade II. In all cases the references to this tale are to the versions in two series of readers. This is the only case revealed in this investigation in which an unfortunate version is shown to be responsible for the unpopularity of a selection.

#### TYPES OF SUPERIOR SELECTIONS

**Prose and Poetry Not Differentiated.** In discussing the content of selections there are no sufficient reasons for classifying prose and poetry into two types of reading matter. Pupils' interest in poetry is shown by their reactions to the poems submitted to them. The first poem reported on by them

was *Excelsior*. Only a low percentage liked this poem while the majority stated that they did "not like poetry anyhow." In nearly every case, however, the pupils who said that they dislike it stated why they do like *The Village Blacksmith*, *The Barefoot Boy*, and *The One-hoss Shay*. The results here obtained confirm the opinions of many teachers who have found that the difficulty is nearly always with certain poems and not with poetry in general. This statement holds for both boys and girls so far as the results indicate.

**Distinctive Types of Superiority.** In Table XIX appear the types of selections which stand out clearly in Table XVII. Although the types are fairly distinct, several different characteristics are often exemplified by the same selection. The manifold appeal of these selections has much to do with their popularity. Also, the interests of pupils in some of them indicate that they might be offered in any of several different grades if properly written for these grades.

**Superior Reading Selections and the Objectives of the Course in Reading.** In our introductory chapter, several objectives of the course in reading were set up. These objectives may be used as bases for judging the selections now under discussion. Among these objectives is the *ability to enjoy literature*. As means for attaining this objective, selections embodying qualities found to interest pupils were advocated. A second group of objectives as set up includes *ability in imagination*, *ability in expression*, and the *possession of an adequate vocabulary*. These objectives are also attained, teachers assert, by the use of interesting selections. In Grades I and II, for example, *The Three Bears* is useful in the cultivation of imagination and expression and in building up a vocabulary; the same is true in Grade VI of *The King of the Golden River*, and in Grade VIII of *Evangeline*. A third group of objectives includes *literary taste*. This objective results from effective use of well-written subject matter. Statistical evidence shows that teachers regard the selections catalogued in Table XVII as examples of good literature. Furthermore, our introductory chapter contended that the attainment of the desirable objectives necessitates the use of material

## TABLE XIX

TYPES OF READING SELECTIONS FOR THE RESPECTIVE GRADES AND  
EXAMPLES OF EACH TYPE

## TYPES OF SELECTIONS FOR GRADES I-II

Animal stories: *The Three Little Pigs; Three Billy Goats Gruff.*  
 Cumulative tales: *The Little Red Hen; The Old Woman and Her Pig.*  
 Nursery Rhymes: *Tom, Tom the Piper's Son; The Swing.*  
 Fairy tales: *Cinderella; The Elves and the Shoemaker.*  
 Child life: *My Shadow; Little Boy Blue.*  
 Humorous tales: *The Gingerbread Boy; The Bremen Band.*  
 Adventure: *The Three Bears; Little Red Riding Hood.*  
 Interesting information: *The Little Steam Engine; The Flag.*  
 Nature: *What Does Little Birdie Say; The Magpie's Lesson.*  
 Dramatization: *The Three Bears; The Bremen Band.*

## TYPES OF SELECTIONS FOR GRADES III-VI

Fairy tales: *Pandora's Box; Aladdin and His Wonderful Lamp.*  
 Child life: *Dick Whittington and His Cat; Cosette.*  
 Adventure and heroic: *The Leak in the Dike; Robinson Crusoe.*  
 Knighthood: *The Knights of the Silver Shield; How Cedric Became a Knight.*  
 Animal stories: *Black Beauty; Patrasche.*  
 Humor: *The Wishing Gate; The Tar Baby.*  
 Interesting information: *Washington's Boyhood.*  
 Nature: *Daffy-down-dilly; Hiawatha.*  
 Dramatization: *The Pied Piper of Hamelin; Hiawatha.*  
 Poetry: *The Village Blacksmith; The Pied Piper of Hamelin.*

## TYPES OF SELECTIONS FOR GRADES VII-VIII

Adventure: *Horatius at the Bridge; Fitz-James and Roderick Dhu.*  
 Description: *The Day Is Done; Snowbound.*  
 Romance: *Evangeline; The Courtship of Miles Standish.*  
 Knighthood: *King Arthur Stories.*  
 Humor: *Mr. Pickwick's Slide; The One-hoss Shay.*  
 Supernatural: *Rip Van Winkle; The Legend of Sleepy Hollow.*  
 Biography and History<sup>1</sup>: *Paul Revere's Ride; The Courtship of Miles Standish.*  
 Interesting information: *Before Coins Were Made; Paper Money.*  
 Nature: *Birds of Killingworth; The Sandpiper.*  
 Dramatization: *William Tell; The Merchant of Venice.*  
 Child life: *The Barefoot Boy.*  
 Poetry: *Evangeline; To a Waterfowl.*

<sup>1</sup> *Travel* may be mentioned in this connection; there were, however, no references to selections telling of travel.

whose content is within the mental grasp of the pupils who read it. These selections are, teachers assert, within the grasp of pupils. The selections discussed in this chapter are found, therefore, to be superior when judged with reference to the desirable objectives of the course in reading and the means for attaining these objectives.

Superior reading material may, therefore, be described as follows: it possesses one or more—usually more—of the qualities which make selections intrinsically interesting to pupils; it is found by those who administer the course in reading to be available for attaining one or more of the desirable objectives of the course in reading; it possesses literary merit; and it is within the mental grasp of the pupils who are to read it.

#### ANALYSES OF SUPERIOR READING SELECTIONS

The following analyses set forth the important qualities exemplified in a few superior selections. Owing to the general familiarity with many of these selections, there is no need for such detailed treatment as was given in the preceding chapter to undesirable selections.

**The Tar Baby.** *The Tar Baby* is an outstanding superior selection for Grade III. This selection has for its setting a woodland scene in hot weather. Two animals, a rabbit and a fox, are interested in avoiding the extreme heat. "Brother" Fox proposes that they build a cool little house. The rabbit does not favor this proposal but says that a few green leaves are quite sufficient for him. The fox proceeds, however, to build a house. After the house is completed, the rabbit, in the absence of the fox, occupies it. The fox plans to entrap the rabbit by means of a wooden doll covered with tar. The rabbit comes along and, after an attempted argument with the exasperating doll, finds that he is unable to free himself from the sticky object which he has tried to force into a conversation. The fox then comes out and places fire-wood near the rabbit, at the same time audibly planning for a feast. The fire is kindled, the tar becomes heated, the rabbit extricates himself and runs away.



This story avoids a fault of many morality stories by portraying the administering of only a vigorous warning to the slothful rabbit. It holds the reader in suspense while the rabbit is trying to extricate himself from the toils of the silent, sticky wooden doll. The humor and resourcefulness of both the fox and rabbit are shown in their plans to entrap and to attain freedom, respectively. The pleasing effect of the story is enhanced by a satisfactory ending in which the fox's extreme plans for punishment are foiled by his own efforts while the rabbit is given a warning which he will remember. The story also offers an excellent opportunity for dramatization.

Teachers' comments show that they value especially the action, which is both dramatic and otherwise interesting, the animal play, the humor, and the ease with which the selection can be understood. Other incidental values are its good ending and vocabulary. The resourcefulness of the rabbit was mentioned by nine teachers of Questionnaire II.

**The Three Bears.** The selection entitled *The Three Bears* is too well known to require extended analysis. Its stated values are the animal element and personification, interesting action, adventure, interesting characters, ease, and availability for dramatization. Many teachers who responded to the questionnaires referred to the "variety" contained in the story. This variety of appeal results from such qualities as the following in addition to those already mentioned: *interesting repetition*, the bear's home, opportunity for dramatic reading and telling, the child's escapades. This selection has also a good ending, humor, and provides an opportunity for the play of imagination. Such a variety of appeals is one of the notable characteristics of superior selections.

**The Gingerbread Boy.** Another favorite of the primary grades is *The Gingerbread Boy*. This English folk tale relates the story of making and baking a gingerbread boy, his subsequent adventures as he fled from the old man and woman, and his last words when the fox craftily captured him. The important qualities of the story are fairly obvious if one reads only this fragmentary outline. Interesting action

and adventure are exemplified from the time the old woman begins to plan the gingerbread boy until his ultimate capture by the fox. The interesting characters are the old man and the woman who live in the little old house down under a hill, the cow, the horse, the fox, and the boy himself, all of whom engage in interesting conversation. The rollicking versions which appear in several different readers emphasize the humor of the situation and prepare judiciously for the "sad ending" of the story. Dramatization of the story is easy and involves interesting action as well as interesting conversation. The incidental teaching values of the selection are its availability for cultivating imagination and expression and for enlarging the vocabulary.

**The Knights of the Silver Shield; How Little Cedric Became a Knight.** *The Knights of the Silver Shield* is one of the most popular selections for Grades III to V. This tale and *How Little Cedric Became a Knight* call forth much praise of knighthood—its interesting characters, adventure, and portrayal in an unobtrusive way of wholesome virtues. Several teachers asked in their responses why they cannot have more tales of knighthood. Although these tales are desirable for Grade III, they seem to be more suitable for Grades IV and V. In these grades the stories can be freely elaborated, while in Grade III there is a danger, if the story is well rendered, of using over-difficult constructions.

Without further examples, the criteria here set up may be used in locating the good qualities, as the criteria set up in the preceding chapter may aid in locating undesirable qualities in inferior selections. In this sense, these criteria form one of the important bases for a formulation of standards for evaluating reading matter.

### CONCLUSIONS

Teachers' statements show close agreement upon the superiority of many reading selections. So far as pupils judged the same selections, they regarded them as superior even before they studied them in class.

Superior reading selections usually possess several appeals. Many also appeal to pupils of several grades. Many selections are always superior even though rendered in different versions.

Many selections designated as superior in certain grades are frequently studied too early in the reading course and are then judged undesirable.

Poems as well as prose selections are among the passages which both pupils and teachers designate as superior.

Selections having one or more strong appeals may be classified as typical of the grades in which these appeals are important. The fact that many appeals are important in several successive grades accounts for the persistent superiority of certain selections in these grades.

Moral qualities are not obtrusive in superior reading matter although incidental qualities of great moral value often appear in superior selections. Similarly, other desirable objectives of the reading course are to be attained by the use of superior selections although the superiority would result from their appeals to the interests of the reader apart from the more remote values.

The literary merits of superior selections are very frequently mentioned by teachers.

The reactions of teachers and pupils as well as our analyses of superior selections show that such selections are intrinsically interesting, that they are available for attaining desirable objectives of the reading course, and that they possess literary merit.

## CHAPTER VII

### INFORMATIONAL MATERIAL FOR THE COURSE IN READING

Ample evidence of the pronounced interest of teachers and pupils in informational material<sup>1</sup> has been found<sup>2</sup>. This interest is in striking contrast with the lack of interest of teachers in the informational passages found in some widely used readers. The purposes of this chapter are as follows: (1) to show the appreciation with which pupils read well-graded informational material; (2) to show that teachers agree with pupils regarding the values of and interest in this material; (3) to show the striking contrast between teachers' reactions to this material and their reactions to such informational material as appears in their basal readers; and (4) to suggest guiding principles affecting the choice of informational passages to be used in the reading course.

#### PUPILS' APPRECIATION OF THE INFORMATIONAL MATERIAL READ

In Table XX is shown the character of the responses of seventh and eighth-grade pupils to the selections in the Community Life Series. As there was no observable difference between the reactions of the pupils of the two grades, their responses are not separated in the tables. The fact that pupils of both grades are almost unanimous in favoring these selections, together with the fact that there are few differences between their reactions to each of the four selections, indicates that this kind of material is suitable for these grades so far as pupils' interests are concerned. The wide range of population groups represented in the classes investigated adds further support to this conclusion.

<sup>1</sup> See note, p. 21, chap. II.

<sup>2</sup> See Chapter II, pp. 22 f. for the method of procedure followed in obtaining data upon this material.

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## TABLE XX

### THE CHARACTER OF THE RESPONSES OF PUPILS TO INFORMATIONAL LITERATURE WRITTEN ESPECIALLY FOR THEIR USE

Selections	No. of pupils judging	Pct. favorable	Qualities mentioned and the frequency of each quality
<i>Before Coins Were Made</i>	82	100	<p>Various media of exchange...37</p> <p>History .....24</p> <p>Evolution of modern money..23</p> <p>Indian trade .....20</p> <p>Barter .....20</p> <p>Need for use of metal as medium .....15</p> <p>Trading in Virginia .....11</p> <p>Ants taking gold out of ground ..... 6</p> <p>Well told ..... 6</p> <p>Early use of iron for money. 4</p> <p>Chinese making hoes..... 1</p> <p>Use of scalps by Indians..... 1</p>
<i>The Minting of Coins</i>	82	96	<p>How money is made.....48</p> <p>Stamping the coins.....38</p> <p>Weighing the coins.....23</p> <p>Making over coins .....20</p> <p>Getting designs.....19</p> <p>History .....18</p> <p>Ancient methods of computations .....17</p> <p>Well told ..... 2</p> <p>Uninteresting ..... 2</p> <p>Too mature ..... 1</p>
<i>Paper Money</i>	82	99	<p>The engraving process .....36</p> <p>How paper money is made...33</p> <p>The kind of paper used.....21</p> <p>How counterfeiting is avoided.21</p> <p>How paper money is made over .....20</p> <p>Economy in having paper money .....15</p> <p>Getting rid of old bills. . . . 12</p> <p>History .....13</p> <p>Redeeming old bills ..... 6</p> <p>United States the first to use paper money ..... 3</p> <p>Guarding the vaults ..... 1</p> <p>Counting the money ..... 1</p> <p>Too mature ..... 1</p>

Selections	No. of pupils favor- judging able	Pct. 94	Qualities mentioned and the frequency of each quality
<i>Money in the Community and the Home</i>	82	94	Use at home of money from taxes .....26 National and local expenses..24 The process of taxation.....20 Interesting information about taxes .....19 The family budget .....18 Assessments .....13 War time use of money..... 7 Well told ..... 2 Uninteresting ..... 2 Tired hearing of taxes..... 2 Not so well told as the others. 1

Additional evidence of the pupils' interest is found by comparing their comments on these passages with their comments upon some of the standard selections submitted to them. The fullness as well as the vigor of the comments upon the informational passages is shown in the following quotations:

C. F.—*What Constitutes a State*. "Dislike. Because it is not a poem for a boy. Uninteresting."

*Abou Ben Adhem*. "Dislike. Because it is not exciting, or sad, or glad, and has too much talking, not many rhyming sentences."

*Gettysburg Address*. "Like. Because it's by A. Lincoln, it's patriotic."

*Before Coins Were Made*. "Like. Because it tells what people did in ancient times concerning money. How the iron hoes were used in China. About the ants and the gold they took out of the ground. What traders used and what the Indians used for money. How the people in Virginia used tobacco for money."

B. D.—*What Constitutes a State*. "Like. Because it is so well expressed and you can learn something from the selection."

*Paul Revere's Ride*. "Like. Because of the patriotism shown and the continuous rhythm throughout the selection."

*Marco Bozzaris*. "Like. Because it is so vividly pictured and very natural."

*Paper Money*. "Like. Because I have found the value of paper money and the way and means of making it and practically remaking it."



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C. D.—*Marco Bozzaris*. "Like. I like this because it is a war story and is exciting."

*Christmas at the Cratchits*'. "Like. I like this because it seems so much like a true story."

After writing more than a page on the Community Life Leaflet, C. D. closed by saying she liked the leaflet "because it tells all about the making of money, the history of money, how they traded goods of different sorts instead of using money, designing of money, how government taxes and collects taxes, national, county, state, and public expenses. This (the history of money) is all very interesting."

Although the term *patriotism* is not mentioned at all in the pupils' responses, references to civic information are made by practically all of them. In striking contrast with these statements are the inane comments made by scores of pupils on such patriotic selections as *What Constitutes a State* and the *Gettysburg Address*. The civic value of the selection entitled *Money in the Community and the Home* is clearly brought out by over one hundred of the responses in Table XX. These tabulations are based upon such clear-cut statements as the following:

"Tells where the public money goes."

"Tells how money is collected through taxation."

"Shows how money should be spent and that so much should be allowed for each thing."

"It teaches the child how to save by making budgets."

"It tells the actual cost of things that I didn't know cost so much."

"My family is interested in government doings."

"It shows what carelessness and money wasting will do, therefore, we should save our money."

The same pupils wrote as follows about the *Gettysburg Address*:

"I like it because it was written by a good man and tells us a great many things in a few words."

"Like. Because it gives glory and brings out the point."

"Like. Because it was written by one of the greatest men the United States ever had."

"Patriotic—spoken by a great man."

"I like it because it is from the mouth of Abraham Lincoln."

"Like. Because about a great battle and because it is about Lincoln."

"Like. Because Lincoln spoke it, and because he spoke it with a lot of meaning."

The comments on the *Gettysburg Address* are given in full; those on *Money in the Community and the Home* only in part. This comparison is not for the purpose of showing that the *Gettysburg Address* is a poor selection. The purpose is merely to show that pupils are greatly interested in such informational passages as the Community Life Series, and to point out the fact that the older informational selections designed to deal with similar topics may require more careful teaching than those written by experts especially for school use. Indeed, many important selections in current use seem to be very hazardous teaching material.

#### TEACHERS' EVALUATIONS OF THE NEW INFORMATIONAL PASSAGES

Table XXI shows the grades in which the selections from the Community Life Series were tried by teachers and the degree of success reported by them. In order to show the shifting of the degrees of success from grade to grade, the responses of teachers from all grades in which these selections were used are given. This shifting is shown by the higher percentages of teachers giving favorable ratings to the material in successive grades. On the one hand, the per cent of teachers who graded the selections as "Poor" (C) decreases from 13 per cent in Grade IV to 3 per cent in Grade VII (in Grades VIII and IX, no teachers rated the selections as low as C). On the other hand, the per cent of teachers who rated the selections as "Highly satisfactory and understood by the pupils" (A) increases from 29 per cent in Grade IV to 94 per cent in Grade IX.

TABLE XXI

THE PERCENTAGES OF TEACHERS OF GRADES IV TO IX WHO PLACED  
EACH OF THE DIFFERENT ESTIMATES ON THE COMMUNITY  
LIFE SERIES\*

Grades		IV	V	VI	VII	VIII	IX
Degree of success	Number of teachers:	31	50	59	34	34	16
A-----		29	68	71	62	65	94
B-----		58	30	24	35	35	6
C-----		13	2	5	3		
D-----							

Total number of teachers judging, 59.

\*The success is rated from A, excellent to D, complete failure.

Owing to the small number of responses from Grade IX, the ratings for Grades V to VIII possess greater significance than those for Grade IX. In the later grades, about two-thirds of the teachers regard these passages as excellent. The conditions under which they were read may have had something to do with the lack of outstanding success in some schools. Evidence of insufficient time for reading them was found in the statements of some of the teachers who reported to the questionnaire; a considerable number of teachers began with the earlier numbers of the series and did not reach the selections under discussion<sup>3</sup>. A rating of either "A" or "B" indicates that a selection is successful. Hence, the responses show that nearly 100 per cent of the teachers found the selections good if not superior. So high a rating by teachers was obtained by only a few of the selections in the readers most frequently used in these grades. The data indicate that these informational selections can be successfully used in Grades V to IX; children in the later grades do not find the selections too easy in either content or style. The use of this material is far less hazardous for the teacher than the use of standard informational selections. The amount of time given to such material would not

<sup>3</sup>The selections here discussed are numbers 21 to 24 of the entire Community Life Series. Only the reports of teachers who used these four selections appear in any of the tables of this study.

deprive the pupil of acquaintance with as much standard literature as he now reads, if the course in reading were so adapted to the child's maturity that detailed explanations of content could be omitted.

TABLE XXII

GRADES FOR WHICH TEACHERS RECOMMEND THE USE OF INFORMATIONAL SELECTIONS CONTAINED IN THE COMMUNITY LIFE SERIES

Selections	Number of teachers	Number of teachers for each grade					
		IV	V	VI	VII	VIII	IX
<i>Before Coins Were Made.....</i>	49	3	10	16	10	8	2
<i>The Minting of Coins .....</i>	52	3	11	14	14	8	2
<i>Paper Money.....</i>	50	4	8	15	12	7	4
<i>Money in the Community and the Home.....</i>	50	4	7	14	12	10	3
Total recommendations for each grade-----		14	36	59	48	33	11

In addition to the statistical data given in Table XXII, the following comments of teachers of Grades VII and VIII support the conclusion that such informational material is valuable:

"Information excellent for teachers as well as for pupils."

"Content good, but diction too difficult for the material to be satisfactorily handled by pupils of sixth and seventh grades."

"Material good but too difficult for seventh grade."

"Interesting and practical."

"Material not found elsewhere is here well written."

"Good supplement to American History."

The tone of these comments as well as those of teachers in lower grades indicates that these selections are better adapted for use in the later grades than in the lower.

THE CONTRAST BETWEEN TEACHERS' REACTIONS TO THE NEW  
INFORMATIONAL LITERATURE AND THEIR REACTIONS TO  
THE OLDER INFORMATIONAL LITERATURE

In marked contrast with the success of the informational passages already discussed is the utter lack of success of the informational selections found in some of the readers in current use. Table XXIII shows the reactions of teachers of Grades VII and VIII to this older material. The most striking feature of this table is that nearly all of these selections were rated as failures by all of the teachers who mentioned them. Indeed, of all selections mentioned as undesirable, these selections are in greatest disfavor. They are said to be over-mature in content, words, or style. There is a very high correlation between the judgments of pupils and of teachers so far as pupils read the older selections.

The selection entitled *Before Coins Were Made* avoids any reference to the child's presumed interests. The child is not told that he "will be interested in learning" about something. There is no apology for the selection. The account is allowed to stand on its own merits. These merits are exemplified in the first paragraph, the characteristics of which are such that it would receive a high rating even if judged by standards designed for evaluating standard poems, tales of adventure, or romances. This first paragraph with its interesting action, suggestions of adventure and heroism, interesting characters, problems, and information is as follows:

When the agents of the Hudson's Bay Co. began to trade with the Indians they found it useless to talk about the prices of the things to be bought and sold in English money. The Indians did not want silver or gold. They wanted guns and knives and food and clothing. In return they brought furs to the trading stations. Among the Indians everything was spoken of as worth a certain number of beaver skins. Traders found that they could deal with the Indians much more easily by saying guns and other things cost so many skins. For example, a gun cost 20 skins.

Throughout this informational account are many picturesque details which appeal to the reader's interests and serve to hold

his attention so that other facts may be presented effectively. For example, early kinds of money such as wampum, dried codfish, and the red scalps of woodpeckers aid in describing

TABLE XXIII

THE REACTIONS OF TEACHERS TO CERTAIN TYPES OF INFORMATIONAL LITERATURE\*

Selections	No. of times mentioned	Pct. of un- favorable responses	Qualities mentioned and the frequencies of each quality
GRADE VII			
<i>The Mystery of Life</i>	26	81	Too mature .....21 Interesting problems ..... 4
<i>Early Conquests</i>	19	100	Too mature ..... 8 Hard constructions ..... 8 Too abstract..... 3
<i>Wealth</i>	16	100	Too mature .....16
<i>What a Good His- tory Should Con- tain</i>	15	100	Too mature ..... 9 Hard words ..... 4 Uninteresting ..... 1
<i>The Character of Columbus</i>	15	100	Too mature .....12 Uninteresting ..... 3
<i>The Character of Washington</i>	14	100	Too mature .....13 Unfamiliar subject matter... 1 Not well told ..... 1
<i>Genius and Industry</i>	12	100	Too mature .....11 Uninteresting ..... 1
<i>The Moral Rights of Animals</i>	12	100	Too mature ..... 8 Hard constructions ..... 6
<i>The Desert</i>	11	73	Too mature ..... 6 Geographical information .... 2
<i>The Settlers of New England</i>	9	77	Too mature ..... 2 Hard constructions ..... 1 Uninteresting ..... 1 History and biography ..... 1



## GRADE VIII

<i>Munera Pulveris</i>	19	95	Too mature . . . . .	16
			Uninteresting . . . . .	12
			Interesting information . . . .	1
			Abstract . . . . .	3
<i>The Renunciation</i>	15	100	Too mature . . . . .	15
			Uninteresting . . . . .	1
<i>Wisdom and Prudence</i>	11	100	Too mature . . . . .	9
			Uninteresting . . . . .	4
<i>Immutable Justice</i>	9	100	Too mature . . . . .	4
			Uninteresting . . . . .	2
			Hard Words . . . . .	4

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\*Based upon responses to Questionnaire I.

early media of exchange. In another place, the beginnings of metal money are described. The story which Herodotus tells of the huge ants bringing up gold when they burrow and the story of the use of iron hoes as a medium of exchange in China aid in enlivening this part of the account.

Although the other informational selections used have somewhat less of the picturesque, they describe matters which pupils find very interesting. The pupils referred to nearly all of the processes described in their comments on *The Minting of Coins* and *Paper Money*. Table XX shows that pupils are interested in this form of action, problems, and general information. In their comments on *Money in the Community and the Home*, a large amount of interesting and familiar subject matter is shown to introduce pupils to facts which otherwise might be very dry. Pupils frequently mentioned the information about expenditures of public money which they "did not know about before." Also, in the comments on this passage, the interest in discussions of the "family budget" is attested by the forceful statements of the eighteen pupils who mentioned it. Parents of many of the pupils had been trying to devise a budget system. The enumeration of these facts by the pupils indicates that the selections are valuable not only as social science but also as interesting and stimulative problematic literature.

### CONCLUSIONS: GUIDING PRINCIPLES AFFECTING THE CHOICE OF INFORMATIONAL LITERATURE

The forceful statements of pupils indicate their understanding of the informational material presented to them in this investigation. These statements are in contrast with their statements about much of the traditional literature upon which they reported.

The lack of interest in other informational literature may be due to the form in which it is written and not to a lack of interest in the informational content itself. At any rate, pupils almost unanimously favor the newer informational selections, although they usually refer only to interesting information.

If the traditional form of informational literature is used, teachers must recognize the difficulty of teaching it and plan to do more "teaching" than is needed if the newer informational selections be used.

Informational material, if used, should be written for pupils' use by experts and not culled from masterpieces written for the use of adults.

The interest of pupils in the informational passages submitted to them is keen even before class discussion or study of them. This fact indicates that these passages might, with careful teaching, be presented in lower grades than those in which we have presented them.

Interesting informational literature may be written so that it will possess the same important desirable qualities as classical non-informational literature.

Social needs of pupils and the amount of teaching possible are the best guides for determining the grades in which this material shall be used. It is highly satisfactory in all of the grades here reporting upon it.

Of all the inferior selections mentioned by teachers, the traditional passages are given the lowest ratings; of all the superior selections reported on by either teachers or pupils, the newer informational passages are as popular as any.

Pupils of different population groups show equally strong interests in these passages.

Extensive additions of informational literature should be made to the elementary school reading course. This increase might be an addition to the amount of matter now read in many schools if less time were devoted to oral reading and the analysis of over-mature reading selections.

## CHAPTER VIII

### THE RELATION OF READING SELECTIONS TO THE STANDARD OF GRADING IN VARIOUS SCHOOLS

Before the placement of reading selections can be adequately discussed, the relation of reading material to the academic standards of different schools needs to be studied. The comments of teachers upon this matter will first be studied, but pupils' responses constitute the chief source of information and form the basis for most of the conclusions at the end of this chapter.

#### DIFFERENCES BETWEEN THE GRADING OF VARIOUS SCHOOLS AS SHOWN BY TEACHERS' RESPONSES

**Differences Are General Rather Than Specific.** A limited number of isolated cases indicate distinctly local differences among pupils' reading interests. For example, a teacher in an industrial community cited her foreign-born city pupils' inability to enjoy the poem entitled *The Fringed Gentian*. Similar statements are made about *The Barefoot Boy*. Inability to present these selections satisfactorily results from the limited experience of many city pupils. In contrast with these difficulties arising from local limitations, we find a few cases in which advantages result from local conditions. For example, *Paul Revere* and *The Great Stone Face* appeal particularly to children acquainted with the settings of these selections.

The cases just cited show that local handicaps or advantages may at times lead either to a lack or a presence of interest. But such specific cases are rare while general cases of another sort are frequent. Indeed, a careful search for indications of local differences shows that variations in interests and comprehension are due to a general lack of familiarity with the material in certain passages having localized appeals. The case may be illustrated by the comments on *Glimpses of the Great Com-*

*moner* and *The Mad Tea Party*. These passages are assumed to have no local advantages in most cities, yet they elicit the same kinds of comments as cited above. These comments state merely that the selections contain unfamiliar subject matter or that the content is outside the experience of pupils. The fact that such comments relate to general difficulties with various types of selections leads one to suspect that the problem results from the character of the teaching and grading of pupils in certain schools and not from the local appeal of certain reading selections.

So far, then, as local differences are indicated by teachers' comments, there are no grounds for excluding material solely because it lacks a local appeal. On the contrary, the determining matters are the general maturity of the pupils in a given school and the amount and kind of teaching possible or feasible.

#### DIFFERENCES OF GRADING SHOWN BY PUPILS' RESPONSES

Among the comments of pupils upon the selections presented to them, isolated instances show a particularized appeal resulting from local differences. For example, some of the children of one school refer with apparent delight to their own experiences as backgrounds for two of the selections: *The Barefoot Boy* and *The Wreck of the Hesperus*. Inasmuch as these few comments constitute all of the pupils' references to matters of local interest, we turn to the results of the comprehension tests.

The comprehension questions drew forth answers showing pronounced differences between pupils of different schools. In Diagram VI, the differences between the responses of Schools U and C are shown for selections read in three grades. Here appear the percentages of pupils who profess interest in the selections designated and the percentages of questions correctly answered. In comprehension the pupils of one school are at least two grades behind those of the other. Only in the case of *Douglas and Randolph* do the seventh-grade pupils of School C reach the comprehension scores attained by the fifth-grade pupils of School U. The diagram thus shows a marked

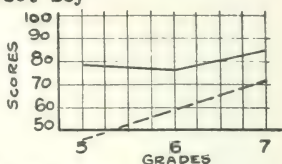
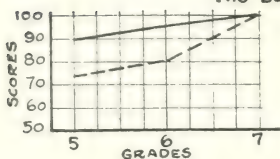
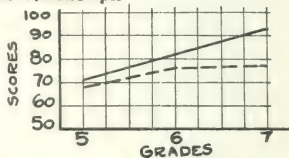
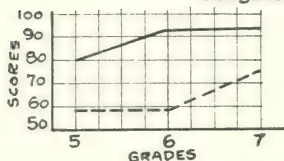
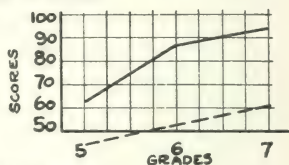
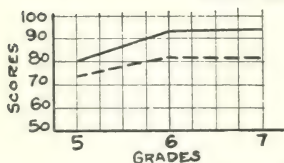
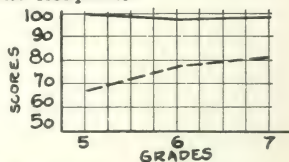
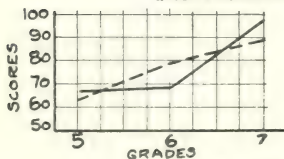
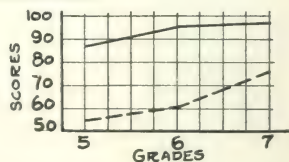
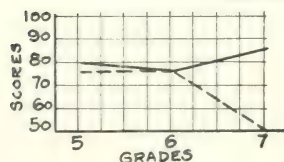
InterestComprehension**The Barefoot Boy****Douglas and Randolph****Paul Revere's Ride****The Wreck of the Hesperus****Baron Munchausen**

Diagram VI. Comparison of interest in and comprehension of certain selections as shown by the responses of pupils of different schools. (— equals School U; - - - - equals School C.)



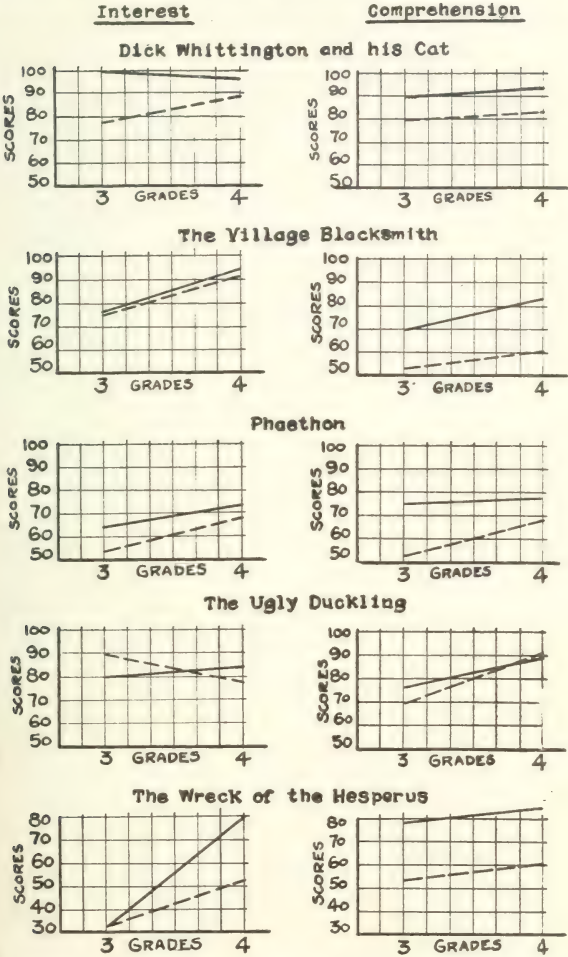


Diagram VII. Comparison of interest in and comprehension of certain selections as shown by the responses of pupils of two schools within the same school system. (———— equals School B; - - - - equals School C.)

TABLE XXIV

CORRELATIONS BETWEEN DIFFERENT SCHOOLS IN INTEREST

Schools	Grades													
	III A B C			IV A B C			V U C		VI U C		VII A U C		VIII A C	
A	---	.90	.96	---	.90	.76	---	---	---	---	.80	.71	---	.95
B	.90	---	.86	.90	---	.69	---	---	---	---	---	---	---	---
C	.93	.86	---	.76	.69	---	.88	---	.70	---	.71	.71	---	.95
U	---	---	---	---	---	---	---	.88	---	.70	.80	---	.71	---

TABLE XXV

CORRELATIONS BETWEEN DIFFERENT SCHOOLS IN COMPREHENSION

Schools	Grades													
	III			IV			V	VI	VII		VIII			
	A	B	C	A	B	C	U	C	U	C	A	C		
A	---	.89	.87	---	.95	.89	---	---	---	---	.82	.93	---	.88
B	.89	---	.85	.95	---	.88	---	---	---	---	---	---	---	---
C	.87	.85	---	.89	.88	---	.80	---	.80	---	.93	.77	---	.88
U	---	---	---	---	---	---	---	.80	---	.80	.82	---	.77	---

variability in the grading of the pupils of two schools. It is, however, quite unnecessary to go outside a single school system to find great differences between schools. Indeed, the differences between the two schools of the same system represented in Diagram VII are as marked as those between schools of different systems. Here we find that in only one case, that of the very easy selection entitled *The Ugly Duckling*, do the fourth-grade pupils of School C comprehend reading material as well as the third-grade pupils of School B. In their comprehension of each of the other selections the two schools remain about two grades apart. Tables XXIV and XXV show the correlation between pupils' comprehension scores and interest ratings in different schools.

The character and amount of preparation of pupils for reading a selection are dependent upon the locality in the case of only a few selections. Among these selections are some dealing with nature-study. A reading course cannot be regarded as satisfactory unless it provides proper preparation of pupils

for such passages. The dependence of pupils' interest upon their comprehension as shown in the following chapter justifies a flexible placement of reading material. The only alternative lies in the solution of the difficulties of presenting reading material to the pupils who ordinarily find it very difficult and, therefore, very uninteresting.

### CONCLUSIONS

Differences exist among pupils in interests and comprehension of reading material.

Except in a very few cases, differences are due to variations in the abilities of pupils to comprehend reading matter rather than to variations in interests in matter which is understood.

So far as interests are concerned, variations do not warrant different kinds of literary material for different localities.

Local differences may require a different approach to and presentation of reading selections which, in themselves, lack a ready-made appeal.

When different schools vary in comprehension so that the pupils classified in a given grade are consistently two or more grades apart in comprehension, radical measures should be taken to ensure a flexible grading of material or an improvement of teaching or both.

## CHAPTER IX

### THE PLACEMENT OF READING SELECTIONS

In Chapter II several traditional methods of selecting material for reading were catalogued. These methods have led to the use of many standard passages by pupils several grades apart. The purpose of this chapter is to formulate standards for placing passages in the grades where they can be used with optimal benefit.

#### TEACHERS' STATEMENTS REGARDING THE PLACEMENT OF READING SELECTIONS

**The Range of Placement of Certain Selections.** Tables XXVI and XXVII show teachers' judgments upon the placement of selections used in several different grades. Some of these selections are used in different versions in different grades. *The Pied Piper of Hamelin*, for example, in prose or verse occurs in Grades II to VII, as shown by the first questionnaire. Some selections, as *The Ugly Duckling* and *The Village Blacksmith*, recur from grade to grade until pupils tire of them. The reports show that children read and re-read certain selections instead of extending their acquaintance with literature.

**Selections Which Gain in Favor from Grade to Grade.** Another matter shown by Tables XXVI and XXVII is that many selections gain in favor in later grades. In the case of selections written in many versions of varying difficulty, we can draw only general conclusions. Among such selections, Aladdin is increasingly popular from Grades III to V; this fact may be due to either or both of two reasons: the versions in the more advanced readers may be more effectively written than those in the primary readers, or the pupils of the later grades may be able to appreciate better the story itself. In the case of *The Village Blacksmith* and *The Barefoot Boy*, there is a distinct gain in the percentages of teachers who favor substantially the same versions. Many other selections rise

TABLE XXVI

TEACHERS' REACTIONS REGARDING THE PLACEMENT OF SELECTIONS NOW  
IN GENERAL USE\*

Selections	Questionnaire	Grades in which judged and percentages of responses favorable							
		I	II	III	IV	V	VI	VII	VIII
<i>Sleeping Beauty</i> . . . . .	I	81	67	82	62				
<i>I Saw a Ship a-Sailing</i> . . . . .	II	96	99						
<i>Lambkin</i> . . . . .	I	85	97	86					
<i>Lambkin</i> . . . . .	II	98	85						
<i>The Pied Piper of Hamelin</i> . . . . .	I	94			96	79	94	100	
<i>Robinson Crusoe</i> . . . . .	II	88	97	97	97	94	90	88	
<i>The Sand-piper</i> . . . . .	I	97	100	92	90	86			
<i>Cricket on the Hearth</i> . . . . .	II	79	96	92	93	93			
<i>Rip Van Winkle</i> . . . . .	I		100	33	80				
<i>The Great Stone Face</i> . . . . .	II		48	85	94	90			
<i>The Snow Image</i> . . . . .	I		55	41	66	62	93		
<i>Horatius at the Bridge</i> . . . . .	II			75	82	94	100	98	
<i>Lochinvar</i> . . . . .	I			0	40	78	87	88	
<i>The Legend of Sleepy Hollow</i> . . . . .	II			21	57	74	87	96	
<i>The Skeleton in Armor</i> . . . . .	I			36		33			
<i>Elcgy (Gray)</i> . . . . .	II			64		80	75	84	
<i>The Vision of Sir Launfal</i> . . . . .	I			80	92	90	92	100	
<i>Thana-topsis</i> . . . . .	II			94	86	88	96	98	
<i>The Prisoner of Chillon</i> . . . . .	I				68	83	94	98	
<i>The Man Without a Country</i> . . . . .	II				93	90	95	85	
	I				66	77	94	100	
	II				13		27	50	
	I				58		80	92	
	II					11		53	
	I					18	51	44	
	II						48	72	
	I						57	91	
	II							14	14
	I							36	57
	II							100	
	I						36	46	58
	II					88		100	100
	I					63	53	93	97

\*The percentages of favorable responses are based on the number of teachers responding for each of the grades.

TABLE XXVII

TEACHERS' AND PUPILS' REACTIONS REGARDING THE PLACEMENT OF THE  
SELECTIONS PRESENTED TO PUPILS\*

Selections	Questionnaire or Pupils	Grades in which judged and percentages of responses favorable							
		I	II	III	IV	V	VI	VII	VIII
<i>The Leak in the Dike</i> .....	QI	-----	-----	-----	100	100	-----	-----	-----
	QII	-----	-----	100	99	99	-----	-----	-----
	Pupils	-----	-----	97	96	99	-----	-----	-----
<i>Excelsior</i> .....	QI	-----	-----	-----	0	0	-----	-----	-----
	QII	-----	-----	-----	38	60	-----	88	-----
	Pupils	-----	-----	39	37	38	47	69	66
<i>Phaethon</i> .....	QI	-----	0	25	-----	-----	-----	-----	-----
	QII	-----	79	86	97	97	-----	-----	-----
	Pupils	-----	-----	65	61	67	-----	-----	-----
<i>The Village Blacksmith</i> ..	QI	-----	-----	-----	100	100	-----	-----	-----
	QII	-----	64	80	94	97	94	80	81
	Pupils	-----	-----	88	91	97	97	-----	-----
<i>The Ugly Duckling</i> ....	QI	-----	-----	62	69	-----	-----	-----	-----
	QII	-----	90	91	83	-----	-----	-----	-----
	Pupils	-----	-----	90	85	85	-----	-----	-----
<i>The Barefoot Boy</i> .....	QI	-----	-----	20	86	-----	91	-----	-----
	QII	-----	-----	69	75	94	96	91	93
	Pupils	-----	-----	-----	68	81	87	100	99
<i>Dick Whitting- ton and His Cat</i> .....	QI	-----	100	100	93	-----	-----	-----	-----
	QII	71	87	97	99	-----	-----	-----	-----
	Pupils	-----	-----	89	91	88	84	-----	-----
<i>Abou Ben Adhem</i> .....	QI	-----	-----	-----	63	89	-----	-----	-----
	QII	-----	-----	-----	-----	52	53	55	55
	Pupils	-----	-----	-----	-----	-----	-----	-----	-----
<i>Cosette</i> .....	QI	-----	-----	-----	94	90	-----	-----	-----
	QII	-----	-----	-----	66	-----	-----	-----	-----
	Pupils	-----	-----	75	80	90	-----	-----	-----
<i>The Wreck of the Hesperus</i> }	QII	-----	-----	31	-----	-----	-----	-----	-----
	Pupils	-----	-----	52	66	71	74	85	78
<i>Aladdin and His Wonderful Lamp</i> .....	QI	60	-----	100	93	90	-----	-----	-----
	QII	68	79	95	97	98	-----	-----	-----
	Pupils	-----	-----	86	87	93	84	81	-----
<i>Paul Revere's Ride</i> .....	QI	-----	-----	-----	92	-----	-----	-----	-----
	QII	-----	-----	77	83	-----	97	96	95
	Pupils	-----	-----	-----	64	76	92	94	100

\*The percentages of favorable responses are based on the numbers of teachers or pupils judging the selections in the different grades.



TABLE XXVII—(Continued)

Selections	Questionnaire or Pupils	Grades in which judged and percentages of responses favorable							
		I	II	III	IV	V	VI	VII	VIII
<i>The One-hoss Shay</i> .....	QI	-----	-----	-----	-----	100	-----	-----	100
	QII	-----	-----	-----	-----	91	94	100	96
	Pupils	-----	-----	-----	-----	-----	67	76	82
<i>The Gettysburg Address</i> .....	QI	-----	-----	-----	0	-----	-----	-----	-----
	QII	-----	-----	-----	-----	-----	72	92	100
	Pupils	-----	-----	-----	-----	-----	81	82	82
<i>The Chambered Nautilus</i> .....	QI	-----	-----	-----	-----	-----	-----	18	88
	QII	-----	-----	-----	-----	30	-----	83	93
	Pupils	-----	-----	-----	-----	-----	31	34	34
<i>Douglas and Randolph</i> ....	QI	-----	-----	-----	-----	0	-----	72	-----
	QII	-----	-----	-----	-----	-----	-----	88	-----
	Pupils	-----	-----	-----	-----	59	70	89	98
<i>Baron Münchhausen Tales</i> ....	QI	-----	-----	-----	-----	0	-----	-----	-----
	QII	-----	-----	-----	54	70	69	74	-----
	Pupils	-----	-----	-----	-----	78	76	84	84
<i>Marco Bozzaris</i> .....	QI	-----	-----	-----	-----	-----	-----	100	-----
	QII	-----	-----	-----	-----	-----	-----	84	97
	Pupils	-----	-----	-----	81	84	84	86	90
<i>Christmas at the Cratchits'</i> .....	QI	-----	-----	-----	100	86	97	97	-----
	QII	-----	-----	-----	73	92	90	99	98
	Pupils	-----	-----	-----	81	84	84	86	90
<i>What Constitutes a State</i> .....	QI	-----	-----	-----	-----	-----	-----	0	-----
	QII	-----	-----	-----	-----	-----	-----	74	97
	Pupils	-----	-----	-----	-----	-----	31	44	55

in favor from grade to grade. This is shown in Tables XXVIII and XXIX. When one finds these selections placed far earlier than the grade in which they find greatest favor, he may well question the grading of a course of study unless unusual conditions on the part of either the teacher or the pupils justify the placement.

**Selections Which Decline in Favor from Grade to Grade.** Other selections rise to a maximal percentage of teachers favoring them and then gradually decline as shown in Table XXX. Decline in favor occurs less frequently than rise in favor because many selections are attempted long before they begin to be appropriate, while few are used after they become too easy. Among the few clear cases of this sort is *The Ugly*

*Duckling* which is usually more popular in Grade III than in Grade IV. In the second questionnaire, the percentage of teachers favoring this selection declines from 90 per cent in Grade III to 83 per cent in Grade IV. The pupils' favorable judgments on this selection show a corresponding decline from 90 per cent to 85 per cent for the same grades. *Picciola* declines similarly from 94 per cent in Grade V to 77 per cent in Grade VII. There is evidence that the same conditions hold also for *The Little Match Girl* which is judged as too immature by 20 per cent of the teachers in Grade V; likewise, *Hiawatha* declines from 97 per cent in Grade V to 86 per cent in Grade VI where 6 per cent of the teachers criticise its immaturity.

**Agreement of Teachers Regarding the Need for Flexibility of Placement.** If some teachers agree on the suitability of a selection for one grade, others agree on its suitability for one or two adjacent grades. As examples of this extended agreement, *Rip Van Winkle*, *The Legend of Sleepy Hollow*, and *Horatius at the Bridge* are agreed upon as suitable for Grades VII and VIII, with a strong probability of success in Grade VI. In very few cases do we find single grades as the outstanding positions in which selections are successful. Consequently, a general principle of placement may be aduced, that is, if a selection is highly desirable for any given grade, it is likely to be a favorite in at least one adjacent grade. The placement of a selection in one particular grade will depend on some additional consideration other than its possible value from the grade teachers' point of view; such considerations, for example, as the academic standards in a given school, the social value of the selection, or its relation to other school work.

**The Relation Between Comprehension and Interest of Pupils.** The correlations between pupils' comprehension and interest for each grade and for all grades taken together are either "marked" or "high." Before discussing these correlations, several exceptional cases will be discussed. First, some selections, as *Paul Revere's Ride*, are interesting, although the pupils' comprehension scores for them are only fair; such selections are always found to contain one or more

# THE PLACEMENT OF READING SELECTIONS

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TABLE XXVIII

A LIST OF SELECTIONS WHICH GAIN IN FAVOR FROM GRADE TO GRADE\*

Selections	The gain in favor from grade to grade as measured by the percentage of favorable reports from teachers upon the selections.
<i>Aladdin</i> .....	rises from 68 per cent in Grade I to 98 per cent in Grade V
<i>Dick Whittington</i> .....	rises from 77 per cent in Grade I to 99 per cent in Grade IV
<i>Sleeping Beauty</i> .....	rises from 81 per cent in Grade I to 99 per cent in Grade III
<i>Phaethon</i> .....	rises from 79 per cent in Grade II to 97 per cent in Grade IV
<i>Robinson Crusoe</i> .....	rises from 79 per cent in Grade II to 93 per cent in Grade VI
<i>The Sandpiper</i> .....	rises from 48 per cent in Grade III to 95 per cent in Grade VII
<i>The Cricket on the Hearth</i> .....	rises from 55 per cent in Grade III to 93 per cent in Grade VIII
<i>Rip Van Winkle</i> .....	rises from 67 per cent in Grade III to 100 per cent in Grade VII
<i>The Barefoot Boy</i> .....	rises from 69 per cent in Grade III to 93 per cent in Grade VIII
<i>Paul Revere's Ride</i> .....	rises from 77 per cent in Grade III to 96 per cent in Grade VII
<i>The Great Stone Face</i> .....	rises from 21 per cent in Grade IV to 96 per cent in Grade VIII
<i>Christmas at the Cratchits'</i> .....	rises from 73 per cent in Grade IV to 98 per cent in Grade VIII
<i>The Chambered Nautilus</i> .....	rises from 30 per cent in Grade V to 93 per cent in Grade VIII
<i>Lochinvar</i> .....	rises from 68 per cent in Grade V to 98 per cent in Grade VIII
<i>The Legend of Sleepy Hollow</i> .....	rises from 66 per cent in Grade V to 100 per cent in Grade VIII
<i>The Skeleton in Armor</i> .....	rises from 55 per cent in Grade V to 92 per cent in Grade VIII
<i>The Man Without a Country</i> .....	rises from 63 per cent in Grade V to 97 per cent in Grade VIII

\*The percentages were derived by dividing the number of teachers who reported upon the respective selections by the number of teachers who reported favorably upon the same selections.

TABLE XXIX

THE GAINS FROM GRADE TO GRADE IN THE PERCENTAGES OF TEACHERS AND PUPILS FAVORING CERTAIN REPRESENTATIVE SELECTIONS\*

Selections	The gains from grade to grade	
<i>Aladdin</i> .....	Teachers: rises from 95 per cent in Grade III to 98 per cent in Grade IV	V
	Pupils: rises from 86 per cent in Grade III to 93 per cent in Grade IV	V
<i>Dick Whittington</i> .....	Teachers: rises from 97 per cent in Grade III to 99 per cent in Grade IV	IV
	Pupils: rises from 89 per cent in Grade III to 91 per cent in Grade IV	IV
<i>The Barefoot Boy</i> .....	Teachers: rises from 75 per cent in Grade IV to 93 per cent in Grade VIII	VIII
	Pupils: rises from 68 per cent in Grade IV to 99 per cent in Grade VIII	VIII
<i>Paul Revere's Ride</i> .....	Teachers: rises from 83 per cent in Grade IV to 96 per cent in Grade VII	VII
	Pupils: rises from 64 per cent in Grade IV to 94 per cent in Grade VII	VII
<i>Christmas at the Cratchits'</i> .....	Teachers: rises from 73 per cent in Grade IV to 98 per cent in Grade VIII	VIII
	Pupils: rises from 81 per cent in Grade IV to 90 per cent in Grade VIII	VIII

\*The percentages are based upon the numbers of teachers and pupils judging the respective selections.

TABLE XXX

SELECTIONS WHICH ARE USED BOTH TOO EARLY AND TOO LATE IN THE READING COURSE\*

Selections	The rise and decline in the percentages of teachers favoring the use of these selections in the grades named					
	Grades	Per cent favorable	Grades	Per cent favorable	Grades	Per cent favorable
<i>The Village Blacksmith...</i>	II	64	V	97	VIII	81
<i>The Pied Piper</i>	II	88	V	97	VIII	88
<i>I Saw a Ship a-Sailing.....</i>	I	85	II	97	III	86
<i>The King of the Golden River.</i>	IV	86	VI	98	VIII	87
<i>The Walrus and the Carpenter</i>	III	86	V	97	VI	81

\*The percentages were derived as in Table XXIX by dividing the number of teachers favorable by the total number of teachers judging the respective selections. (Data from Questionnaire II).

of the important desirable qualities in an obtrusive form. Selections of another group, as *Phaethon*, are comprehended, although for definite reasons they are not greatly enjoyed in any grade; such selections are always found to contain one or more of the undesirable qualities. Still other selections as *The Ugly Duckling*, *Aladdin*, and *The Wreck of the Hesperus* are, owing to their somewhat childish content, less interesting to pupils of the highest grades in which they were read than to pupils of lower grades. As a rule, however, selections are both comprehended and enjoyed or else neither comprehended nor enjoyed.

In addition to the questions upon selections as measures of comprehension, the pupils were asked to state why they liked or disliked each of the selections judged. They found certain selections "too hard for our grade," to contain "too many hard words," and so forth. These comments on over-maturity show a correlation of .77 with the understanding of the selection as measured by comprehension questions. Comprehension is still further tested by comparing pupils' statements as to over-maturity with the statements of teachers about the same

TABLE XXXI

PUPILS' COMPREHENSION OF AND INTEREST IN SELECTIONS READ IN DIFFERENT GRADES. ALL SCHOOLS\*

Selections	Percentages of pupils comprehending or interested in the selections read						
	Grades:	III	IV	V	VI	VII	VIII
<i>The Leak in the Dike</i> .....	{Comprehension	88	92	96	---	---	---
	{Interest	97	96	99	---	---	---
<i>Excelsior</i> .....	{Comprehension	21	42	58	67	73	79
	{Interest	39	37	38	47	69	66
<i>Phaethon</i> .....	{Comprehension	63	73	91	---	---	---
	{Interest	65	61	67	---	---	---
<i>The Village Blacksmith</i> ....	{Comprehension	65	74	74	90	---	---
	{Interest	88	91	97	97	---	---
<i>The Ugly Duckling</i> .....	{Comprehension	73	88	96	---	---	---
	{Interest	90	85	85	---	---	---
<i>The Barefoot Boy</i> .....	{Comprehension	---	45	61	68	81	86
	{Interest	---	68	81	87	100	99
<i>Dick Whittington</i>	{Comprehension	88	90	91	97	---	---
	{Interest	89	91	88	84	---	---
<i>Abou Ben Adhem</i>	{Comprehension	---	---	47	59	61	47
	{Interest	---	---	52	53	55	55
<i>Colette</i> .....	{Comprehension	71	88	94	---	---	---
	{Interest	75	80	90	---	---	---
<i>The Wreck of the Hesperus</i> .....	{Comprehension	73	74	82	86	89	89
	{Interest	52	66	71	74	85	78
<i>Aladdin</i> .....	{Comprehension	59	59	81	81	83	---
	{Interest	86	87	93	84	81	---
<i>Paul Revere's Ride</i> .....	{Comprehension	---	42	53	68	75	65
	{Interest	---	64	76	92	94	100
<i>The One-hoss Shay</i> .....	{Comprehension	---	---	---	77	80	75
	{Interest	---	---	---	67	76	82
<i>Gettysburg Address</i> .....	{Comprehension	---	---	---	62	72	70
	{Interest	---	---	---	81	82	82
<i>The Chambered Nautilus</i> .....	{Comprehension	---	---	---	42	51	42
	{Interest	---	---	---	31	34	34
<i>Douglas and Randolph</i> .....	{Comprehension	---	---	70	80	85	82
	{Interest	---	---	59	70	89	98
<i>Munchausen Tales</i> .....	{Comprehension	---	---	69	76	89	90
	{Interest	---	---	78	76	84	84
<i>Marco Bozzaris</i> ..	{Comprehension	---	---	---	61	68	66
	{Interest	---	---	---	60	73	54
<i>Christmas at the Cratchits'</i> .....	{Comprehension	---	71	68	70	80	88
	{Interest	---	81	84	84	86	90
<i>What Constitutes a State</i> .....	{Comprehension	---	---	---	46	52	58
	{Interest	---	---	---	31	44	55

\*Percentages of pupils who answered correctly the comprehension questions on the selections read and of pupils who said they were interested in the selections.



selections; here, there is a correlation of .71. Teachers' comments about over-maturity and pupils' comprehension scores on the questions give a correlation of .59. The same comprehension scores give a correlation of .56 with the percentages of teachers' favorable responses regarding the same selections. If, then, a selection is judged by teachers and pupils as too mature, the pupils' ability to pass a test on the selections is closely parallel with the stated amount of maturity.

Diagram VIII shows some of the differences in the amounts of teaching required for the success of such selections as *The Leak in the Dike*, *Dick Whittington*, and *Cosette* as compared with such other selections as *Abou Ben Adhem*, *The Chambered Nautilus*, and *What Constitutes a State*. This series of diagrams shows also the decline in interest in the somewhat childish selections as *The Ugly Duckling*, *Phaethon*, and *Aladdin*, while the comprehension increases. The fairly close paralleling of the increase of interest with the increase in comprehension already mentioned is shown in many selections. The decline in the comprehension scores of Grade VIII has been accounted for by the fact that a school which raised considerably the scores for Grades VI and VII has no eighth grade.

Table XXXII shows the effect of a single discussion period devoted to eleven selections in Grade VII in the University Elementary School. A gain in appreciation was made in all selections except *Christmas at the Cratchits'* and the selections given a very high rating after the first reading. The average gain in pupils' interests was 8.68 per cent per selection; the median gain 10.0 per cent; the range of changes was from 3 per cent to 19 per cent. The possibilities of careful teaching are here suggested; here, at any rate, selections enjoyed by 80 per cent or more of the pupils when presented without comment, increase in interest when studied for even a short time.

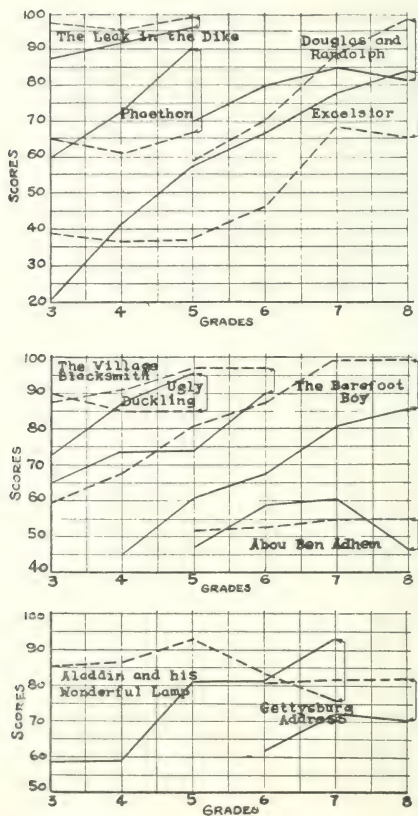


Diagram VIII. Graphical representation of changes in pupils' interest in and comprehension of certain selections in successive grades. Based on Table XXXI. (— equals Comprehension; - - - - equals Interest.)

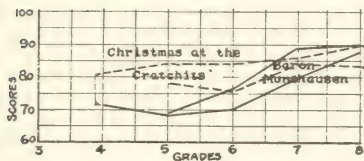
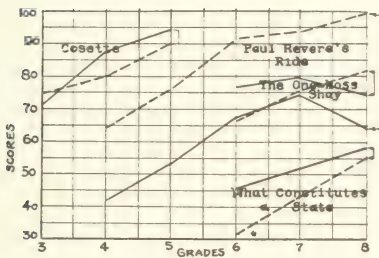
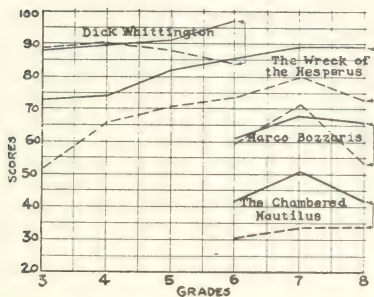


Diagram VIII—Continued

TABLE XXXII

PUPILS' REACTIONS TOWARD READING SELECTIONS BEFORE AND AFTER A  
BRIEF CLASS DISCUSSION\*

Selections	Before discussion per cent favorable	After discussion per cent favorable	Change
<i>The Wreck of the Hesperus</i> .....	78	97	19
<i>Aladdin</i> .....	66	77	11
<i>Paul Revere's Ride</i>	97	97	..
<i>The One-hoss Shay</i>	81	100	19
<i>The Gettysburg Address</i> .....	81	88	7
<i>The Chambered Nautilus</i> .....	40	52	12
<i>Douglas and Randolph</i> .....	97	94	-3
<i>Baron Münchhausen</i>	87	93	6
<i>Marco Bozzaris</i> ....	69	83	14
<i>Christmas at the Cratchits'</i> .....	84	84	..
<i>What Constitutes a State</i> .....	50	60	10

\*Grade VII, School U. From 29 to 32 pupils reported upon each selection.

#### COMPARISON OF TEACHERS' AND PUPILS' REACTIONS TO READING MATTER

A comparison of pupils' and teachers' statements shows the degree of reliability of the judgments of carefully selected teachers. Table XXVII shows that *The Ugly Duckling* was favored by 91 per cent and 83 per cent of the teachers of Grades III and IV, respectively, and by 90 per cent and 85 per cent of the pupils of the same grades. The reliability of these teachers' judgments of *The Village Blacksmith* is about equally great; they rate it favorably as follows in four consecutive grades: 80 per cent, 94 per cent, 97 per cent, and 94 per cent; pupils of the same grades favor it in the following percentages: 88, 91, 97, and 97. For some selections, the evidence from teachers is not so reliable. As an example, in Grade V *Abou Ben Adhem* is favorably rated by 89 per cent of the teachers, while only 52 per cent of the pupils favor it. Inasmuch as only 63 per cent of the teachers favor this selection in the preceding

grade, a question is raised as to its desirability for either grade as shown in the following test of results. This test consists of a study of the additional comments made by teachers as well as the mere statements that the selections were or were not desirable, and of the regularity of increase or decrease in the number of favorable comments on selections. The latter consideration is illustrated in the case of *What Constitutes a State*. Here, 97 per cent of the teachers of Grade VIII favor the selection although only 74 per cent favor it in Grade VII and those not favoring it make very forceful comments on its demerits. Besides, the twelve eighth-grade teachers who mentioned this selection in the responses to Questionnaire I were unanimous in their disapproval of it. Therefore, in the light of these judgments taken as a whole, the selection should be regarded as very hazardous, even for Grade VIII in view of the teachers' comments alone. Teachers' judgments on the other selections catalogued in Table XXVII were studied in a manner similar to that just described for *What Constitutes a State*. Insofar as pupils' judgments are correct, the teachers erred only in the case of the following selections and only in the grades checked (v):

	Grades:	III	IV	V	VI	VII	VIII
<i>The One-hoss Shay</i> .....		..	..	..	v	v	..
<i>Baron Münchhausen Tales</i> .....		..	..	..	..	v	..

These selections are, however, criticized also by many pupils in exactly the same manner that many teachers criticize them. That is, many pupils say that they are mere "nonsense" or are "silly." We conclude, therefore, that when the responses to both questionnaires are considered, one can safely use teachers' judgments as bases for predicting pupils' interests in representative standard selections, and, therefore, for placing selections in grades where comprehension by pupils is possible.

Another line of agreement between teachers and pupils is found by comparing the cases in which both groups of judges assert that certain selections are too mature or contain too many hard words. Here, the correlation is .71. The accuracy of teachers' judgments on this matter can be checked. Teachers' comments on *too mature* and *hard words* give a marked correlation (.59) with pupils' comprehension scores, while

these scores, in turn, give a correlation of .77 with pupils' comments regarding over-maturity. Inasmuch as high correlations are found in all these cases, we may trust the judgments of teachers regarding the maturity of reading matter and pupils' interest in it.

Teachers generally give a slightly higher rating to selections than pupils do. Some selections are greatly over-rated, as *The Chambered Nautilus*, *Marco Bozzaris*, and *What Constitutes a State* in Grade VIII and *Phaethon* in Grades IV and V. These cases are, however, exceptional; a selection rated favorably by from 90 per cent to 100 per cent of the teachers is usually favored by from 80 per cent to 100 per cent of the pupils. Out of the fifty-five cases in Table XXVII in which both teachers and pupils judged the same selections, only six failed to conform to the rule just stated.

TABLE XXXIII

CORRELATIONS BETWEEN TEACHERS' AND PUPILS' REACTIONS TO  
READING SELECTIONS

Pupils' interests and comprehension in all grades.....	.66
Pupils' comprehension and teachers' interests in selections.....	.56
Teachers' and pupils' comments as to over-maturity of selections. .71	
Pupils' comments on over-maturity and their comprehension scores .....	.77
Teachers' comments on over-maturity and pupils' comprehension scores .....	.59
Teachers' (Questionnaire I) and pupils' interests.....	.63
Teachers' (Questionnaire II) and pupils' interests.....	.48
Teachers' (both questionnaires) and pupils' interests.....	.66
Teachers' interests (Questionnaires I and II).....	.47
Teachers' (Questionnaire II) and pupils' mention of "determin- ing" desirable qualities in case of selections read by pupils....	.87
Teachers' (both questionnaires) mention of "determining" desir- able and undesirable qualities in case of selections judged by both groups.....	.67

**Summary of Correlations.** From the foregoing discussion we draw the following conclusions: (1) Three kinds of teacher-pupil measurement show correlations ranging from "marked" to "very high" when taken in any combination.



(2) Selections which show irregularities of judgments of teachers of either questionnaire or of pupils must be regarded as at least questionable for use in the grades concerned. (3) A classification of selections with reference to either interests or maturity can be accurately made by studying the comments of teachers upon selections which we have not presented to pupils. In order to bring the correlations together, Table XXXIII is presented.

**An Optimal Placement for All Reading Selections.** In the foregoing discussions, reference has been made to several different groups of selections, namely, those in which there is a gradual development of interest followed by a decline, those in which there is a gradual development followed by a long and undetermined period of interest, and also selections in which there is little interest until near the end of the eighth grade. The data collected indicate that selections of the last-named group may be used in only the later grades of elementary schools of average academic standards. Selections in which there is a gradual development of interest followed by a gradual decline should be placed in the grade in which interest is at its height. Such selections are limited with reference to both the lower and upper limits of their use. The remaining group of selections, those in which there is a gradual development of interest followed by a long and undetermined period of interest, should be placed in one of the grades in which interest is great. These selections are limited only with reference to their lower limits of use.

#### WEIGHTING THE DETERMINANTS OF INTEREST IN READING SELECTIONS

In the chapter on the qualities of reading selections, it was found that certain important qualities are the determinants of the value of reading matter so far as the interests of pupils and teachers are concerned. In order to arrive at a definite basis for using these qualities in standardizing reading matter, they must be weighted for each of the grades. To obtain such a weighting, the responses to the second questionnaire

have been used. The total frequencies for the determinants were found for each of the grades and, with the frequencies as bases, the percentages of each of the qualities—the relative frequencies—were derived as shown in Table XXXIV. This table is read as follows: dramatic action, etc., comprise 14 per cent of the comments in which first-grade teachers name any of the qualities included in this table, 19 per cent for the second grade, and so on.

Table XXXIV is offered, therefore, as an index of the relative importance of each of the determining qualities of interests in literary selections for the respective grades. A selection containing interesting action and telling about animal play or personification is likely to be successful in Grade I. Problems involving questions of conduct are frequently found in the successful selections for Grade VIII, and so on.

#### THE FORMULATION OF STANDARDS FOR JUDGING READING SELECTIONS

**Guiding Principles for Setting up Standards.** Several principles may now be stated relative to setting up standards for evaluating reading matter. (1) Selections in disfavor with both pupils and teachers of a given grade should either be deferred or not read at all; for example, *Excelsior* in Grades III to VI. Exceptions to this principle might be justified in schools with unusually high academic standards. (2) Selections favored by both teachers and pupils can be placed according to the units of subject matter to be studied in reading and other school work; for example, *The Leak in the Dike* in Grades II to V. (3) Disagreements of teachers and pupils in which the latter give a low rating to a selection indicate that superior teaching is necessary for success; for example, *The Chambered Nautilus* in Grades V to VIII. The evidence for this statement is found in pupils' original statements even more fully than can be expressed by the statistical data. (4) Selections rated higher by pupils than by teachers should be used if they are worthy as well as interesting, for example, *Baron Munchausen Tales* in Grades IV to VIII. (5) In case of the selec-

TABLE XXXIV

THE RELATIVE FREQUENCIES OF THE MOST IMPORTANT QUALITIES OF READING SELECTIONS\*

Qualities	Grades							
	I	II	III	IV	V	VI	VII	VIII
Dramatic action, adventure, and heroic-----	14	19	23	27	28	28	28	28
Interesting action, (not dramatic)-----	11	11	9	9	8	10	11	12
Humor-----	7	6	6	7	8	10	11	10
Fairy and supernatural-----	9	13	13	14	11	9	5	5
Interesting characters, home life or child life-----	7	6	8	12	14	14	13	13
Interesting problems or character study-----	3	5	7	8	10	11	13	14
Kindness and faithfulness-----	8	9	10	10	10	8	9	8
About animals and personification-----	16	13	10	6	5	3	3	3
Dramatization, availability for-----	10	8	7	4	3	3	3	3
Interesting repetition-----	14	9	5	1	1	1	1	1
Interesting information-----	1	1	2	2	2	3	3	3

\*Derived from Table XI by taking the relative frequencies for Questionnaire II shown in that table.

tions in which there is a decline of interest from grade to grade, there is no warrant, statistical or otherwise, for neglecting the indications here shown; for example, *Dick Whittington* in Grades IV to VI and *The Ugly Duckling* in Grades III to V. (6) The wording of a selection has great influence upon its suitability for a given grade; for example, *Aladdin* can be made suitable for any of the grades from II to VII. This selection seems to be as good so far as the plot is concerned for the third as for the fifth grade. Makers of readers should not write above the grade for which the plot of a selection and its suggestions are suitable. (7) A "spiral" form of treatment for some persistently popular selections may be desirable; for example, *The Village Blacksmith* might, so far as pupils' interests are concerned, be read in Grades III or V or later, and *Paul Revere's Ride* in Grades V or VIII. (8) A selection as unpopular as *What Constitutes a State* in Grades VI to VIII should be looked upon as hazardous teaching material and, therefore, be undertaken, if at all, only after special provision

has been made for meeting its difficulties. (9) Inasmuch as pupils' ability to pass a comprehension test upon a selection is accurately judged by teachers, a selection which teachers regard as too easy or too difficult should be placed in accordance with teachers' judgments and with reference to other matters such as its social value, possible earlier or later use, interest, and other work. (10) The high correlations between teachers' judgments and pupils' interests indicate that unequivocal statements from a large number of carefully selected teachers regarding any selection will be very accurate. (11) A high correlation exists between pupils' and teachers' naming of the qualities characterizing the same selections. This indicates that the teachers' statements regarding the large number of selections commented upon by them are very nearly the same as though the pupils themselves had made the statements. (12) Since carefully selected teachers' judgments are trustworthy, the reliability of their ranking of interests depends largely upon the range of selections judged by them. A very wide range of selections has been judged by teachers in the course of the present investigation. (13) The weighting of qualities on the basis of teachers' judgments is justified because this weighting is derived from careful estimates of the values of many representative selections.

**Attributes of a Set of Standards for Judging Reading Selections.** In order to facilitate the use of results already summarized, a set of standards has been formulated for estimating the probable success of various reading selections. These standards have been formulated with the following attributes in mind: (1) The standards should enable the teacher or supervisor of reading to judge fairly accurately the maturity of a selection for a given grade. (2) The standards should contain a list of qualities of reading selections so weighted as to indicate their relative if not their absolute importance in the school grades. (3) The standards should emphasize the importance of flexibility of placement of selections. (4) There should be lists of representative selections for each grade so arranged as to show the ratings of the selections with reference to both comprehension and interest. (5) There

should be comments indicating the reasons for differences of interests in different selections. The comments of teachers and pupils already reviewed supply ample data for providing these attributes.

**A Set of Standards for Judging Reading Material.** The set of standards for judging reading material as formulated in the succeeding pages is based upon the foregoing principles. A list of the important determining qualities is given with the respective weightings for each grade. The weightings are the same as those shown in Table XXXIV. The selections are classified upon two bases: difficulty and interests. Both classifications are made with reference to the reactions of all teachers and pupils. In these classifications, the responses of pupils have been closely followed. This has led to only one marked deviation from teachers' judgments, namely, in the case of *Aladdin*, which has been placed with reference to pupils' comprehension of the difficult version presented to them<sup>1</sup>. The reactions of teachers of adjacent grades were considered in the rating of selections.

The literal ratings of selections refer in all cases to the percentages of pupils and teachers favoring the selections and the percentages making comments upon the over-maturity of the selections. In addition, the comprehension scores of the pupils are considered. In the comprehension ratings, the letters have the following percentage values: *A (very easy)* denotes a comprehension score of 85-100 attained by pupils; *B (moderately easy)*, 75-85; *C (difficult)*, 65-75; *D (too difficult to be attempted)*, lower than 65. The same numerical values hold for the interest ratings: *A* denotes *very interesting*; *B*, *moderately interesting*; *C*, *needing careful teaching to secure interest*; *D*, *too uninteresting to be attempted*.

A teachers' comprehension rating for selections is used in the case of selections which were not presented to pupils. This comprehension rating is based upon the number of times that teachers judged the respective selections as over-mature for their pupils. The score for a selection is, therefore, derived

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<sup>1</sup>This version is of approximately the same difficulty as that contained in the Elson series, Grammar School Reader, Book I.

by using the number of teachers judging a selection as a base and then computing the percentage of those who mention the over-maturity of the selection.

Inasmuch as the pupils reported upon only a part of the selections included, the interest ratings of additional selections were also based upon the pupils' probable reactions to them as indicated by teachers' comments. For example, in Grade V *Excelsior* received ratings of 58 per cent and 38 per cent by pupils for comprehension and interest, respectively. The same selection received comprehension and interest ratings of 60 per cent, 60 per cent, and 16 per cent by the teachers who responded to the first two questionnaires. Taking these teacher-ratings as bases, *Nuremburg*, with ratings ranging from 3 per cent to 35 per cent by teachers only is assigned a final rating of "D". In the same grade, *The Leak in the Dike* was rated by all judges as from 96 to 100 per cent in both comprehension and interest. Therefore, *Robin Hood*, which was rated by teachers as of the same difficulty as *The Leak in the Dike*, is assigned a final rating of "A" upon teachers' judgments alone. The "additional comments" are given in the set of standards as suggestive of the manner in which the qualities of any selection may be judged.





STANDARDS FOR RATING READING SELECTIONS  
(Based on the reactions of teachers and pupils. See text for derivation.)

GRADE I  
Selections—Difficulty of

	Weightings of the	A (85-100)	B (75-85)	C (65-75)	D (65 or less)
Qualities	qualities				
Animal play and personification	16	<i>The Bremen Band</i> <i>Cinderella</i>	<i>The Caterpillar</i> <i>The Elves and the Shoemaker</i>	<i>I Saw a Ship a-Sailing</i> <i>The Little Plant</i>	<i>Dick Whittington</i> <i>Sleeping Beauty</i>
Interesting repetition	14	<i>The Gingerbread Boy</i> <i>How Patty Gave Thanks</i> <i>Little Boy Blue</i>	<i>Goody Two-Shoes</i> <i>Hans in Luck</i> <i>The Hare and the Tortoise</i>		
Dramatic action and adventure	14	<i>The Little Red Hen</i> <i>Little Red Riding Hood</i> <i>Santa Claus</i>	<i>The House that Jack Built</i> <i>My Shadow and The Singing</i>		
Interesting action	11	<i>Sing a Song of Sirpence</i> <i>The Three Bears</i> <i>Three Billy Goats Gruff</i>	<i>The Old Woman and Her Pig</i>		
Dramatization, availability for	10	<i>Tom and the Wind</i> <i>What Does Little Birdie Say?</i>			
Fairy element or supernatural	9				
Kindness and faithfulness	8				
Interesting characters, home life, and child life	7	<i>The Bremen Band</i> <i>The Caterpillar</i> <i>Cinderella</i>	<i>Hans in Luck</i> <i>The Hare and the Tortoise</i> <i>The Old Woman and Her Pig</i>	<i>Dick Whittington</i> <i>Goody Two Shoes</i> <i>The House that Jack Built</i>	
Humor	7	<i>The Elves and the Shoemaker</i>		<i>I Saw a Ship a-Sailing</i> <i>Sleeping Beauty</i>	
Interesting problems and character study	3	<i>The Gingerbread Boy</i> <i>How Patty Gave Thanks</i> <i>The Little Red Hen</i> <i>Little Boy Blue</i>			

Interesting in-formation . . . .	1	My Shadow and The Swing Little Red Riding Hood Santa Claus Sing a Song of Sixpence The Three Bears Three Billy Goats Gruff Three Little Pigs Tom and the Wind What Does Little Birdie Say?	Additional Comments
			<p>1. <i>The Three Bears</i>.—Animal play and personification; interesting action, repetition, and characters; dramatization; humor; child life.</p> <p>2. <i>The Gingerbread Boy</i>.—See Chapter VI for analysis.</p> <p>3. <i>Little Red Riding Hood</i>.—Personification, dramatic action, adventure, interesting characters, dramatic, interesting action, and child life.</p> <p>4. <i>The Bremen Band</i>.—Animal play and personification, interesting repetition and action, dramatization, interesting characters, and humor.</p> <p>5. <i>Dick Whittington</i>.—Content and diction too difficult, presents child life of later grades, unfamiliar subject matter.</p> <p>6. <i>The House that Jack Built</i>.—Lacks action, story element insufficient for so much repetition, monotonous.</p>

## STANDARDS FOR RATING READING SELECTIONS (Continued)

## GRADE II

		Selections—Difficulty of			
Qualities of the selection	Weightings of the qualities	Grade II			
		A (85-100)	B (75-85)	C (65-75)	D (65 or less)
Dramatic ac- tion and ad- venture .....	19	<i>The Bremen Band</i> <i>Cinderella</i> <i>The Elves and the Shoe-</i> <i>maker</i> <i>Hans in Luck</i> <i>The Hare and the Tor-</i> <i>toise</i> <i>The Little Red Hen</i> <i>The Old Woman and Her</i> <i>Pig</i> <i>Little Red Riding Hood</i> <i>The Three Bears</i> <i>Three Billy Goats Gruff</i> <i>Three Little Pigs</i>	<i>Androclus and the Lion</i> <i>Billy Binks</i> <i>Dick Whittington</i> <i>The Fox and the Crow</i> <i>The Golden Touch</i> <i>Kluge Else</i> <i>My Shadow</i> and <i>The</i> <i>Swing</i> <i>Our Flag</i> <i>Sleeping Beauty</i> <i>The Ugly Duckling</i>	<i>The Bell of Atri</i> <i>East o' the Sun and West</i> <i>o' the Moon</i> <i>I Saw a Ship a-Sailing</i> <i>The Pied Piper</i> <i>Robinson Crusoe</i>	<i>Phaethon</i> <i>Sweet and Low</i> <i>The Village Blacksmith</i>
Animal play and personification .....	13				
Fairy and su- pernatural .....	13				
Interesting ac- tion .....	11				
Interesting rep- etition .....	9				
Kindness and faithfulness ..	9				
Dramatization, availability for	8				
Interesting char- acters .....	6				
Humor .....	6				
Interesting problems and character study .....	5				
Interesting in- formation .....	1				
Interest in					
		A (85-100)	B (75-85)	C (65-75)	D (65 or less)
		<i>Androclus and the Lion</i> <i>The Bremen Band</i> <i>Cinderella</i> <i>The Elves and the Shoe-</i> <i>maker</i> <i>The Golden Touch</i> <i>Hans in Luck</i> <i>The Little Red Hen</i> <i>My Shadow</i> and <i>The</i> <i>Swing</i>	<i>Billy Binks</i> <i>Dick Whittington</i> <i>The Fox and the Crow</i> <i>The Hare and the Tor-</i> <i>toise</i> <i>I Saw a Ship a-Sailing</i> <i>The Old Woman and Her</i> <i>Pig</i> <i>Robinson Crusoe</i> <i>Sleeping Beauty</i>	<i>The Bell of Atri</i> <i>East o' the Sun and West</i> <i>o' the Moon</i> <i>The Pied Piper</i>	<i>Kluge Else</i> <i>Phaethon</i> <i>Sweet and Low</i> <i>The Village Blacksmith</i>

*Our Flag*  
*Little Red Riding Hood*  
*The Three Bears*  
*Three Billy Goats Gruff*  
*Three Little Pigs*  
*The Ugly Duckling*

Additional Comments

1. *The Elves and the Shoemaker*.—Dramatic action, fairy, interesting repetition, kindness, interesting characters, home life, interesting problems.
2. *The Golden Touch*.—Subject matter usually needs explanation; dramatic action, supernatural element, interesting characters, child life, humor, interesting problems.
3. *The Village Blacksmith*.—Content and diction too difficult; understood and enjoyed in later grades.
4. *Phaethon*.—The unfamiliar setting requires careful explanation; character of Phaethon—too boastful; children not interested in his punishment.

## STANDARDS FOR RATING READING SELECTIONS (Continued)

## GRADE III

Selections—Difficulty of

Qualities	Weightings of the qualities	A (85-100)	B (75-85)	C (65-75)	D (65 or less)
Dramatic action, adventure, or heroism . . . . .	23	<i>Androclus and the Lion</i> <i>Boy, Bees and British</i> <i>The Bremen Band</i> <i>Cinderella</i>	<i>Alexander and Bucephalus</i> <i>The Bell of Atri</i> <i>Columbus</i> <i>Cosette</i> <i>The Endless Tale</i>	<i>Aladdin</i> <i>The Boy Who Hated Trees</i> <i>Daffydownilly</i> <i>Phaethon</i> <i>Sinbad the Sailor</i>	<i>The Crow</i> <i>The Czar and the Angel</i> <i>Excelsior</i> <i>The Flying Trunk</i> <i>A Mad Tea Party</i> <i>The Sandpiper</i>
Fairy element or supernatural . . . . .	13	<i>The Elves and the Shoemaker</i>	<i>I Saw a Ship a-Sailing</i> <i>Knights of the Silver Armor</i>	<i>The Thrallic</i> <i>The Village Blacksmith</i> <i>The Walrus and the Carpenter</i> <i>The Wreck of the Hesperus</i>	
Animal play . . . . .	10	<i>Hans the Shepherd Boy</i> <i>The Leek in the Dike</i>	<i>Knights of the Silver Shield</i> <i>Lambkin</i>		
Kindness or faithfulness . . . . .	10	<i>Dick Whittington</i> <i>The Golden Touch</i> <i>Little Red Riding Hood</i> <i>Sleeping Beauty</i> <i>The Tar Baby</i>	<i>The Pied Piper</i> <i>The Purple Jar</i> <i>Robinson Crusoe</i> <i>The Ugly Duckling</i> <i>The Wind and the Moon</i> <i>The Wishing Gate</i>		
Interesting action . . . . .	9				
Interesting characters . . . . .	8				
Dramatization, availability for . . . . .	7				
Interesting problems . . . . .	7				
Humor . . . . .	6				
Interesting repetition . . . . .	5	<i>Aladdin</i> <i>Androclus and the Lion</i> <i>Boy, Bees and British</i> <i>The Bremen Band</i> <i>Cinderella</i> <i>Dick Whittington</i>	<i>Alexander and Bucephalus</i> <i>The Bell of Atri</i> <i>Columbus</i> <i>Cosette</i> <i>I Saw a Ship a-Sailing</i> <i>Little Red Riding Hood</i>	<i>The Boy Who Hated Trees</i> <i>Daffydownilly</i> <i>The Endless Tale</i> <i>Lambkin</i> <i>Phaethon</i> <i>Sinbad the Sailor</i>	<i>The Crow</i> <i>The Czar and the Angel</i> <i>Excelsior</i> <i>The Flying Trunk</i> <i>The Mad Tea Party</i> <i>The Purple Jar</i> <i>The Sandpiper</i>
Interesting information . . . . .	2	<i>The Elves and the Shoemaker</i>			

Interest in



<i>The Golden Touch</i> <i>Hans the Shepherd Boy</i> <i>Knights of the Silver An-</i> <i>noys</i>	<i>The Pied Piper</i> <i>The Village Blacksmith</i>	<i>The Throstle</i> <i>The Walrus and the Car-</i> <i>penter</i>	<i>The Wind and the Moon</i> <i>The Wreck of the Hes-</i> <i>perus</i>
<i>Knights of the Silver Shield</i> <i>The Leak in the Dike</i> <i>Robinson Crusoe</i> <i>Sleeping Beauty</i> <i>The Tar Baby</i> <i>The Ugly Duckling</i> <i>The Wishing Gate</i>	<p>Additional Comments</p> <p>1. <i>The Leak in the Dike</i>.—Interesting action, adventure, heroism, dramatic, kindness, faithfulness (patriotism), interesting characters, child life, interesting problems, character study, and interesting information.</p> <p>2. <i>The Village Blacksmith</i>.—Interesting action, kindness, interesting characters and problems, character study and child life.</p> <p>3. <i>The Ugly Duckling</i>.—Interesting action, characters and problems; about animals and personification; character study; humor.</p> <p>4. <i>Aladdin</i>.—Interesting action, adventure, dramatic, supernatural, child life, interesting characters and problems, and character study.</p> <p>5. <i>The Tar Baby</i> and <i>Knights of the Silver Shield</i>.—See analyses in Chapter VI.</p>		

\*The version of *Aladdin* used is unusually difficult.



<i>King of the Golden River</i> <i>Knights of the Silver Shield</i> <i>The Leak in the Dike</i> <i>The Pied Piper</i> <i>The Little Post Boy</i> <i>The Tar Baby</i> <i>The Village Blacksmith</i> <i>William Tell</i> <i>The Wishing Gate</i>	<i>Robinson Crusoe</i> <i>The Ugly Duckling</i>	Additional Comments
		<p>1. <i>Dick Whittington</i>.—Dramatic action, adventure, interesting characters and problems, child life, Dick's home life at Fitzwarren's, and kindness.</p> <p>2. <i>How Cedric Became a Knight</i>.—Dramatic action, adventure, interesting characters and action, and faithfulness.</p> <p>3. <i>The Barefoot Boy</i>.—Interest lost by the time sufficient explanation has been given.</p>

•Difficult version.

## STANDARDS FOR RATING; READING SELECTIONS (Continued)

## GRADE V

## Selections—Difficulty of

Weightings of the qualities		A (85-100)				B (75-85)				C (65-75)				D (65 or less)			
Qualities		The Golden Touch Hiawatha Inchcape Rock King of the Golden River The Leak in the Dike Maggie Visits the Gypsies The Nurnberg Stove Patrasche Phaethon The Pied Piper Robin Hood Robinson Crusoe The Walrus and the Carpenter William Tell				*Aladdin Christmas at the Cratchits' The Little Match Girl Out to Old Aunt Mary's The Village Blacksmith The Wreck of the Hesperus				The Barefoot Boy Baron Munchausen Darius Green Horatius at the Bridge How They Brought the Good News The Legend of Sleepy Hollow The Man without a Country Piping down the Valleys Rip Van Winkle				Abou Ben Adhem Excelsior The Great Stone Face The Lady of Shalott Nuremburg Paul Revere's Ride The Shepherd of King Admetus The Skeleton in Armor The Snow Image Titania and Oberon To a Waterfowl			
Dramatic action, adventure and heroism .....	28																
Interesting characters, home life, and child life .....	14																
Fairy or supernatural .....	11																
Kindness and faithfulness ..	10																
Interesting problems and character study .....	10																
Interest in																	
Interesting action .....	8																
Humor .....	8																
About animals...	5																
Dramatization, availability for ..	3																
Interesting information .....	2																

Interesting re- etition . . . . .	1			
		<i>Maggie Visits the Gypsies</i> <i>The Nurnberg Stove</i> <i>Out to Old Aunt Mary's</i> <i>Patrasche</i> <i>Robin Hood</i> <i>The Pied Piper</i> <i>Robinson Crusoe</i> <i>The Village Blacksmith</i> <i>William Tell</i>	<i>How They Brought the Good News</i> <i>Legend of Sleepy Hollow</i> <i>The Little Match Girl</i> <i>Paul Revere's Ride</i>	<i>The Walrus and the Carpenter</i> <i>The Wreck of the Hesperus</i>
				<i>The Skeleton in Armor</i> <i>The Snow Image</i> <i>Titania and Oberon</i>

\*Difficult version.

## STANDARDS FOR RATING READING SELECTIONS (Continued)

## GRADE VI

## Selections—Difficulty of

Qualities	Weightings of the qualities	A (85-100)				B (75-85)				C (65-75)				D (65 or less)			
		The Bell of Atri Hiawatha Kentucky Belle King of the Golden River The Pied Piper Robinson Crusoe The Village Blacksmith The Walrus and the Carpenter William Tell The Wreck of the Hesperus				*Aladdin Baron Munchausen Christmas at the Cratch- its' Darius Green Horatius at the Bridge The One-hoss Shay Rip Van Winkle				The Barefoot Boy The Death of Baldur Excelsior Gettysburg Address How They Brought the Good News Legend of Bregenz Legend of Sleepy Hollow Lochinvar The Man without a Country Kere's Ride The Sandpiper The Shepherd of King Admetus The Snow Image				Abou Ben Adhem The Courtship of Miles Standish Cranford (Selections) Elm (Gray) The Great Stone Face The Lady of Shalott Marmion and Douglas The Psalm of Life A Pump The Skeleton in Armor Snowbound To a Waterfowl The Vision of Sir Launfal			
Dramatic action, adventure and heroism . . . . .	28																
Interesting characters, home life, and child life . . . . .	14																
Interesting problems and character study . . . . .	11																
Interesting action . . . . .	10																
Humor . . . . .	10																
Fairy and supernatural . . . . .	9																
Kindness and faithfulness . . . . .	8																
About animals . . . . .	3																
Dramatization, availability for . . . . .	3																
Interesting information . . . . .	3																
Interesting repetition . . . . .	1																

Interest in



Robinson Crusoe The Village Blacksmith William Tell	How They Brought the Good News The Legend of Brege- z The Legend of Steep Hollow The Man without a Country Rip Van Winkle The Sandpiper The Wreck of the Hes- perus	Admetus The Snow Image The Walrus and the Car- penter	A Rill from the Town Pump The Skeleton in Armor Snowbound To a Waterfowl The Vision of Sir Launfal
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•Difficult version.

## STANDARDS FOR RATING READING SELECTIONS (Continued)

## GRADE VII

## Selections—Difficulty of

Qualities	Weightings of the qualities	Interest in			
		A (85-100)	B (75-85)	C (65-75)	D (65 or less)
Dramatic action, adventure, and heroism . . . . .	28	Aladdin Baron Münchhausen Before Coins Were Made Horatius at the Bridge King Arthur Stories King of the Golden River The Legend of Sleepy Hollow The Minting of Coins Money in the Community and the Home Paper Money Picciola Pickwick's Slide The Pied Piper Rip Van Winkle Tales of a Grandfather William Tell The Wreck of the Hesperus	A-hunting of the Deer The Barefoot Boy Christmas at the Cratchits' Courtship of Miles Standish The Death of Baldr Evangeline Excelsior Geltysburg Address How They Brought the Good News The Legend of Bregeiz Lochnivar The Man Without a Country The One-hoss Shay Paul Revere's Ride The Snow Image	Anthony's Speech The Building of the Ship The Day Is Done The Fall of the House of Usher Fitz-James and Roderick Dhu The Great Stone Face Herve Riel The Lady of Shalott Marco Bozzaris Marmion and Douglas The Passing of Arthur Snowbound To a Waterfowl	Abou Ben Adhem The Chambered Nautilus Cranford (Selections) Elegy (Gray) Israel The Prisoner of Chillon A Pump The Rime of the Ancient Mariner The Skeleton in Armor Thanatopsis The Vision of Sir Launfal What Constitutes a State
Kindness and faithfulness . . . . .	9				
Fairy and supernatural . . . . .	5				
About animals . . . . .	3				
Dramatization, availability for information . . . . .	3				
Interesting information . . . . .	3				
Interesting repetition . . . . .	1				

How They Brought the Good News Stories King Arthur Stories The Legend of Bregenz The Legend of Sleepy Hol- low The Man Without a Coun- try The Minting of Coins Money in the Community and the Home Paper Money Paul Revere's Ride The Pied Piper Rip Van Winkle Tales of a Grandfather William Tell The Wreck of the Hes- perus	The Building of the Ship The Courtship of Miles Standish The Day Is Done The Death of Balduv Evangeline Gettysburg Address Lochinvar Marmion and Douglas The One-hoss Shay The Passing of Arthur Pickwick's Slide Piccola	Herve Riel The Lady of Shalott Marco Bozzaris Snowbound The Snow Image To a Waterfowl	The Prisoner of Chillon A Rill from the Town A Pump The Rime of the Ancient Mariner The Skeleton in Armor The Vision of Sir Launfal What Constitutes a State
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## STANDARDS FOR RATING READING SELECTIONS (Concluded)

## Grade VIII

## Selections—Difficulty of

Qualities	Weightings of the qualities	Interest in			
		A (85-100)	B (75-85)	C (65-75)	D (65 or less)
Dramatic action, adventure, and heroism . . . . .	28	<i>The Barefoot Boy</i> <i>Baron Münchhausen</i> <i>Before Coins were Made</i> <i>Christmas at the Cratchits'</i>	<i>A-hunting of the Deer</i> <i>The Building of the Ship</i> <i>The Courtship of Miles Standish</i> <i>The Day is Done</i> <i>Douglas and Randolph</i> <i>Evangeline</i> and <i>Snow-bound</i> <i>Excelsior</i> <i>Geltusburg Address</i> <i>Herne Rids</i> <i>How I Killed a Bear</i> <i>How They Brought the Good News</i> <i>The Lady of the Lake</i> <i>The Little of Shalott</i> <i>Lockinvar</i> <i>Marmion</i> and <i>Douglas</i> <i>The One-hoss Shay</i> <i>Paul Revere's Ride</i> <i>The Snow Image</i>	<i>Descent into the Maelstrom</i> <i>The Fall of the House of Usher</i> <i>The Great Stone Face</i> <i>Julius Caesar</i> <i>Marco Bozzaris</i> <i>The Merchant of Venice</i> <i>The Prisoner of Chillon</i> <i>What Constitutes a State</i>	<i>About Ben Adhem</i> <i>The Chambered Nautilus</i> <i>Elegy (Gray)</i> <i>Israel</i> <i>L'Allegro</i> <i>The Skeleton in Armor</i> <i>Thanatopsis</i> <i>To a Skylark</i> <i>The Vision of Sir Launfal</i>
Interesting problems and character study . . . . .	14	<i>Horatius at the Bridge</i> <i>The Legend of Sleepy Hollow</i> <i>King of the Golden River</i> <i>The Man Without a Country</i> <i>try</i> <i>The Minting of Coins</i> <i>Money in the Community</i> <i>Paper Money</i> <i>Pickwick's Slide</i> <i>The Pied Piper</i> <i>Rip Van Winkle</i> <i>The Wreck of the Hesperus</i>			
Interesting characters, home life, and child life . . . . .	13				
Interesting action . . . . .	12				
Humor . . . . .	10				
Kindness and faithfulness . . . . .	8				
Fairy and supernatural . . . . .	5				
About animals . . . . .	3				
Dramatization, availability for . . . . .					
Interesting information . . . . .	3				
Interesting repetition . . . . .	1				

<i>The Courtship of Miles Standish</i> <i>Douglas and Randolph</i> <i>Evangeline</i> and <i>Snow-bound</i> <i>Horatius at the Bridge</i> <i>How They Brought the Good News</i> <i>King of the Golden River</i> <i>The Lady of the Lake</i> <i>The Legend of Sleepy Hollow</i> <i>Lochinvar</i> <i>The Man without a Country</i> <i>Marmion</i> and <i>Douglas</i> <i>The Minting of Coins</i> <i>Money in the Community and the Home</i> <i>Paper Money</i> <i>Paul Revere's Ride</i> <i>Rip Van Winkle</i>	<i>Gettysburg Address</i> <i>The Great Stone Face</i> <i>Herve Riel</i> <i>How I Killed a Bear</i> <i>Julius Caesar</i> <i>The Lady of Shalott</i> <i>The Merchant of Venice</i> <i>The One-hoss Shay</i> <i>Pickwick's Slide</i> <i>The Pied Piper</i> <i>The Skeleton in Armor</i> <i>The Wreck of the Hesperus</i>	<i>Marco Bozzaris</i> <i>The Snow Image</i> <i>To a Skylark</i> <i>The Vision of Sir Launfal</i> <i>What Constitutes a State</i>	<i>Thanatopsis</i>
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COMMENTS UPON THE STANDARDS SET UP AND CONCLUSIONS  
OF THE CHAPTER

In order to facilitate the attainment of the desirable results advocated throughout this study, a set of standards for judging reading selections is presented as an improvement upon traditional bases for determining the placement of reading matter now in use. While many of the selections are used in several different grades, a large number are especially valuable for only one or two grades. Errors in the placement of selections in school readers and courses of study are usually in the direction of over-maturity. Good teaching can be depended on to increase interest ten per cent or more in most selections.

High correlations between teachers' and pupils' reactions warrant a weighting of qualities on the basis of teachers' reactions to representative selections.

The reading matter on which a large number of teachers reported did not include any informational literature except the traditional. The weightings of qualities in the set of standards do not apply directly to such material as that discussed in Chapter VII, although such literature receives a high rating when judged by the standards for other good literature.

The standards set up must possess flexibility because the amount of time to be devoted to a selection and the responsiveness or academic standard of a class may change a selection from the "easy" rating to the "difficult," and *vice versa*.

In order to use the standards effectively, one must become thoroughly familiar with the style and content of several of the selections of each degree of difficulty and interest for each of the school grades.

The standards may be used in judging not only reading matter now in use, but also matter proposed for use. When used for the latter purpose, the standards constitute a tentative scale for evaluating reading selections.



## CHAPTER X

### SUMMARY AND CONCLUSIONS

The purposes of this concluding chapter are (1) to review the aims and methods of the present investigation, (2) to summarize the results obtained, (3) to call attention to the guiding principles already formulated, and (4) to add final conclusions.

**Aims and Methods of This Investigation.** At the beginning of this investigation, a three-fold aim was set up, namely, the collection and organization of data which would make possible the detection and elimination of undesirable reading selections, the detection of superior selections, and the correct placement of these superior selections. In order to establish a working basis, the desirable outcomes of the course in reading were formulated together with a statement of the means for attaining them. In the pursuance of this project, several methods of procedure have been employed in order to obtain first-hand reactions from both pupils and teachers. These forms of procedure include two questionnaires sent to carefully selected teachers for their reactions to standard reading material and one questionnaire also sent to teachers for their reactions to new informational selections. Pupils' reactions to representative selections were obtained by direct presentation of them to pupils of Grades III to VIII.

**Summarization of Results.** The present investigation has led to the accumulation of teachers' judgments upon a very large number of selections found in basal readers. Many teachers report that much of this material is unsatisfactory for the grades in which it is used. The most prevalent undesirable quality of reading material reported is its over-maturity. As evidence of this over-maturity, there are not only the testimonies of teachers of lower grades to the effect that many selections are too difficult for their grades but also the

testimonies of teachers of higher grades that the same selections are successful when used in these higher grades. In addition to selections which are undesirable because of their over-maturity are selections undesirable because they *lack action* or a *plot*, or because they are *unreal*, *depressing*, *monotonous*, or *not well told*. Selections possessing these undesirable qualities are also said to be *too long* or *scrappy*. A few selections are unsatisfactory in certain grades because the pupils have outgrown or become tired of them. A detailed treatment of undesirable qualities is contained in Chapter IV.

Although most standard selections are now established within two or three grades, variability still exists in the placement of much reading matter. Among selections which are variously placed, are superior passages possessing wide ranges of appeal. These ranges of appeal render them available for use in more than one grade. Such selections often begin to be satisfactory in one grade and thereafter rise or continue in favor from grade to grade. Evidence has been cited to show that many of these superior passages are unsatisfactory in some of the lower grades in which they are used. In these cases our data show the beginning but not the end of satisfactory use. Other selections rise in teachers' ratings but also, within the elementary grades, decline.

Variabilities in the success of selections in different schools indicate that variabilities in academic standards rather than in population are responsible for this success or the lack of it. Clear evidence of this fact is found in the responses of pupils of the different schools cooperating in this investigation. Although great differences exist in the character of the population represented by these schools, the pupils do not show differences in interest in the control of the passages read if provision is made for the ability to comprehend the content. This means that moderately difficult or difficult selections may properly be presented to pupils of one grade in one school, while pupils in other schools may not be ready for them until at least one or two grades later. When different schools vary so greatly that pupils regularly classified in a given grade are consistently one or two grades apart in comprehension, differ-

ences in the selections read are necessary unless radical measures are taken for the improvement of teaching in the more backward schools. In view of the fact that pupils shift from school to school, changes in gradation of material for different localities are attended with administrative difficulties. These difficulties are believed to warrant less consideration than the fact that pupils in many schools derive little benefit from selections which are suitable for pupils of their grades in other schools.

Teachers in widely separated cities agree upon the undesirability of certain selections and the desirability of others. Evidences from pupils' responses support the teachers in their objections to many undesirable selections. The selections to which teachers most frequently object are those which require careful analysis by teachers and, therefore, necessitate slow reading, make silent reading difficult if not impossible until after class study, and lead to verbalism. A few teachers cling to these selections with the avowed purpose of inculcating moral principles. Most teachers, however, agree that attempts to force adult conceptions upon children insufficiently prepared to receive such conceptions are futile.

Selections which are satisfactory to both teachers and pupils are abundant. The varied kinds of satisfactory material together with its abundance remove the necessity for using material which is agreed upon as unsatisfactory. The characteristics of satisfactory selections are set forth in the formulation of standards in the preceding chapter.

A careful study of our data on traditional informational literature throws light upon the lack of interest of either pupils or teachers in the informational literature now available in readers. Newer informational literature, however, as discussed in Chapter VII finds favor with both pupils and teachers and provides content which has ample social justification. The success of this material emphasizes the importance as well as the desirability of having such literature written for pupils' use by experts and not culled from larger masterpieces or written for adults. Extensive additions of such material to the elementary reading course might be accompanied by an in-

crease instead of a decrease in the amount of general literature read if the whole course were more carefully graded, because such a gradation would eliminate the necessity for spending large amounts of time explaining over-mature selections.

**Setting Up Standards and Guiding Principles for Selecting Reading Matter.** The problem attacked in the present investigation is chiefly one of setting up standards for selecting and placing reading matter. By reason of the long experience of teachers with a large number of selections, our problem is the more readily solved. The evaluations of this existent and loosely organized body of reading matter indicate both the degree of the pupils' comprehension and of teachers' and pupils' interests, because they are regarded as basic in the selection and placement of material.

At this point, the question arises whether or not passages which are interesting to pupils are, at the same time, appropriate for use in the attainment of the ultimate values of the reading course. In answer to this question, carefully selected teachers give an unequivocal reply that the ultimate values are more readily attained by the use of interesting material than by the use of uninteresting material. This reply comes from teachers who have used both interesting and uninteresting material and are, therefore, able to speak authoritatively.

The nature of the replies of teachers to this question of attaining ultimate values by using interesting material may be analyzed with reference to the outcomes set up in Chapter I. First, the mastery of the mechanics of reading is said by teachers to result from the use of interesting material. Mastery of the mechanics of reading as analyzed in Chapter I consists partly of attaining a favorable attitude toward what is read. This attitude, in turn, necessitates both understanding and interest upon the pupils' part and leads to expressive oral reading or to formation of habits which ultimately make expressive or efficient silent reading possible. Also, in order to progress in reading, the pupil must grow in the ability to recognize words automatically. Here again interesting reading material is said to facilitate the development of appropriate processes

by reason of the concomitant increase in the desire of the pupil to get the meaning from the printed page.

Second, teachers assert that ability in interpreting the printed page is facilitated by the use of interesting content. Here, as in the development of the mechanics of reading, a favorable attitude is necessary. That is, the reader should be able temporarily to assume the author's point of view and must understand the content of the passage read. Also, the willingness of the pupil to analyze the content and apply it to situations other than those presented in the material read depends upon his interest in the passage. The content of the course in reading must present problems, interesting situations, or points of view which provide for the activity of the pupil in selecting, analyzing, and making application. Such activity is, in the opinion of teachers, provided by the selections designated as superior and placed accordingly in the formulated set of standards.

Third, the development of general culture as presented in Chapter I is primarily dependent upon a certain type of exercise, namely, pleasurable activity in reading. Obviously, such pleasurable activity can result only in case the material read is interesting to the reader.

In the development of general culture and ability in interpretation, there is no necessary objection to the use of passages which require careful explanation and presentation. There is, however, in the accumulated statements of teachers, strong evidence that, to be satisfactory, reading matter must be carefully graded in both mechanics and content, and that the difficulties must be presented less abruptly than they are in certain current series of readers. Teachers as now prepared and with present-day facilities as to time for teaching reading, the number of pupils in classes, and individual differences of pupils are practically unanimous in asking that makers of readers take cognizance of schools as they are and select content accordingly. In the case of the compiler, there is an attempt to develop speedily an appreciation for fine literature and also speedily to extend greatly the pupil's familiarity with literature. In the case of the teacher, there is an attempt to teach



her pupils as they advance day by day. On the one hand, the compiler is, the teachers imply, inclined toward the logical organization of the subject matter; on the other hand, teachers are compelled to cope with the psychological development of pupils. In order to bring the two points of view together,—the ideal of the compiler and the practical attitude of the teacher—there needs to be a broader range of literature organized with specific reference to the psychological problems of the teacher, including the slowly developing ability of her pupils. Without commenting on the advance already made in this direction, we have presented evidence upon the present status of the content of readers. This evidence is unequivocal in the demand for still further advance in the increase in the amount of reading material and its more careful selection and organization.

These considerations have led to the formulation of the standards presented in the preceding chapter. In taking cognizance of teachers' and pupils' interests, these standards are, therefore, believed to possess psychological values which have been wanting in the plans of certain compilers of readers. While these directly practical matters have been held in mind, the ultimate values of the course in reading have not been overlooked.

Flexibility in the placement of reading selections is provided in the formulated standards in accordance with the responses of teachers and pupils. The ratings of the selections in successive grades indicate their probable interest and difficulty. This feature of the standards will enable persons who desire some easy and also some difficult matter in the course of a single year to make use of the collected judgments of the participants in this investigation and will also aid in the selection of material adapted to pupils whose academic standing is relatively low or high for their grades.

Based, as they are, on the experience of persons directly engaged in administering the course in reading, the standards of judgment are offered as a guide in the selection and placement of the content of the course.



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CYCLES OF PROSPERITY AND DEPRESSION  
IN THE UNITED STATES, GREAT  
BRITAIN AND GERMANY

A STUDY OF MONTHLY DATA 1902-1908

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## CHAPTER I

### INTRODUCTION: THE SUBJECT MATTER AND THE METHOD

#### A. COMPARISON BETWEEN THIS AND OTHER STUDIES

Two distinct differences appear between the earlier and the more recent books on prosperity and depression. One is a difference in the subject matter discussed; the other is a difference in method.

The earlier writers in this field centered their entire discussion on crises. They looked upon prosperity as the normal thing in industry. A crisis appeared to be a pathological condition, a temporary affliction. The problem was to diagnose a malady. The study of crises was the pathology of Political Economy. The method applied was almost wholly a *priori* reasoning.

Not until the twentieth century was the subject matter broadened. Quantitative studies in annual production and price movements revealed steady, progressive, wave-like movements beginning with a period of low prices, inactivity in trade and production, and culminating in high prices and great activity in industry and commerce. Attention was no longer directed solely to the monetary stringency of panic conditions, nor to the widespread inability of debtors to meet their obligations, but rather to the continuous cycles of prices, and the steady rhythmic waves of production. Business was no longer looked upon as though it were normally in a static condition of prosperity interrupted intermittently by cataclysmic intervals of panic and crises, but rather as a dynamic, changing thing which must be studied as a process. The method necessarily became statistical and historical.

This book attempts two things, which so far as the writer knows, are relatively new in this field: first, a detailed analysis of monthly data for a single cycle of prosperity and depres-

sion; second, a comparative analysis of monthly data in the three great industrial nations of the world, the United States, Great Britain and Germany.

## B. DESCRIPTION OF PERIOD 1902-1908

The period selected for this study was chosen because it includes a well defined, world-wide cycle of prosperity and depression. The year 1902 was chosen as the starting point in order to include within the cycle not merely the trough preceding the crisis of 1907, but also the preceding crest. The year 1908 was chosen as the end of the study in order to include the succeeding depression and the beginning of the recuperation which followed. A general description of the period follows.<sup>1</sup>

The year 1902 was in the United States a period of general prosperity. Crops were excellent, the cotton crop being one of the largest on record. On the railroads there was heavy traffic resulting in severe congestion toward the end of the year. The demand for iron and steel products exceeded home production and there were heavy importations from abroad. The coal trade was disturbed by the anthracite coal strike. Stringency in the money market became very severe in September. The Secretary of the Treasury attempted to relieve this by substituting municipal bonds for government bonds as security for government deposits, thus inducing a great increase in the circulation of national bank notes by releasing the government bonds for use as the basis for further note issue. Another severe stringency occurred in December, which was partially relieved by the formation of a fifty million dollar money pool. On the stock market there was a considerable rise during the first half of the year with a subsequent fall during the period of money stringency. Trading in bonds declined materially during the year.

Foreign trade in Great Britain was adversely affected by the drought in India and Australia, the exhaustion of China after the Boxer trouble, and the war in South Africa. A large

<sup>1</sup> Cf. *Financial Review*, *London Economist*, and *Volkswirtschaftliche Chronik*, 1902-1909.

foreign trade was carried on however with South America and Turkey. The coal trade was stimulated by the coal strikes in the United States and France. The iron and steel industry supplied a strong demand from the United States and Canada, the United States alone importing nearly 680,000 tons of pig iron, rails, blooms, and billets. German competition in iron and steel was very severe, immense quantities being sold in both the United States and Great Britain frequently below cost of production. Depression ruled in ship-building and the textiles. The money market was affected by large shipments of gold to the United States, the Continent and Argentina. Open market rates ruled high. For Great Britain the year was a half-way stage between prosperity and depression.

Germany suffered from depression in 1902. Crops were rather poor, and general business continued at a low ebb as in the preceding year. The stock market tended downward. Reserves were plentiful and money rates were very low throughout the year.

Slight depression ruled on the whole in the United States in 1903. Crops were good but not as large as in 1902. Iron and steel production declined heavily toward the end of the year though the total for the year was good. Unemployment increased somewhat. Stock prices dropped severely, resulting in heavy liquidation and bankruptcies. Interest rates ruled high, loans were extremely hard to float and short time loans were resorted to. Funds borrowed abroad were recalled by Europeans. This forced the banks in turn to recall loans, which in turn compelled the borrower to dispose of his securities. New capital for industrials or railroads could not be secured by the flotation of securities and hence retrenchment was the policy pursued.

Great Britain likewise suffered during 1903. Crops were bad, depression ruled in ship-building and the textiles, exports decreased, unemployment increased, and wages were lowered. The coal trade was fairly steady and was supported toward the close of the year by heavy buying from Russia and Japan. The pig iron trade was helped by a good demand from Ger-

many. On the stock market there was a heavy drop in government, railroad, and industrial securities.

Germany fared better than the other countries in 1903, while she fared worse in 1902. The stock market was rising, there being improvement in almost every kind of security. Production in iron and steel ran high, foreign trade increased, crops were good, and unemployment diminished.

Depression still ruled during the greater part of 1904 in the United States though a revival was apparent toward the end of the year. Railroad earnings and pig iron production ran low during the first few months of the year but soon recovered. The stock market turned upward with a great rise toward the last of the year. New issues were floated easily. Municipalities made large bond offerings which were easily absorbed. Surplus bank reserves ran high and money rates ruled very low.

Great Britain fared much the same as the United States. Production diminished and unemployment increased. Crops were slightly better. The colonies and municipalities had been unable to float bonds and public works were postponed. House building, which had previously gone on at a great rate, broke down. The cotton crop was short and factories ran on short time. The wool trade was poor. Spinners made scarcely any profit. Ship-building yards had little work until toward the close of the year. The iron and steel trade was injured from underselling by the United States due to depression there. Railroad net earnings greatly decreased, dividends were cut down, and the companies found difficulty in borrowing. All past profits had been distributed in dividends, and nothing had been set aside for betterments. Hence retrenchment was necessary. Like the situation in the United States the condition of the stock market improved. Money rates were low. Toward the end of the year improvement occurred in the iron and textile industries.

Germany's somewhat doubtful prosperity of 1903 declined during 1904. The Bourse had a severe panic in the early part of the year due to the outbreak of the Russian-Japanese war. Heavy failures resulted. Coal, iron and steel production de-

clined, while the electrical and textile industries fared better than in 1903. Crops were poor in some lines but good in others.

The year 1905 was a period of tremendous prosperity in all countries. In the United States crops were good, the iron and steel industry was flooded with orders, and the railroads were unable to cope with the volume of traffic offered. Track and equipment were both insufficient. Freight congestion toward the close of the year was very severe. Great speculative activity ruled on the stock exchange. Stocks were generally advanced, a great rise occurring in coal, iron, steel, and copper securities. The money market grew tense particularly toward the close of the year, due to the great activity of trade, big crops, large speculative movements and government operations.

Prosperity returned more slowly in Great Britain. Trade was active in the north, but London suffered because of the shifting of factories from the metropolis to the coal and iron fields of the north. The woolen trade was good, and the cotton trade was exceedingly profitable. Ship-building gained ground with a rush of orders toward the close of the year. The iron and steel trade was good. Municipalities still found some difficulty in floating loans. Money rates were easy.

Germany's condition was quite similar to that of the United States. Railroad earnings increased enormously as did pig iron production. Unemployment was reduced to a minimum. On the Bourse there was great activity and stock prices rose to an unprecedented level. Cash in the banks decreased and money rates advanced. Loans were greatly extended.

The extraordinary prosperity of 1905 continued through 1906 in the United States. Equipment and track shortage continued. James J. Hill stated<sup>2</sup> that between 115,000 and 120,000 miles of additional track were urgently needed. To provide this and necessary equipment he claimed was beyond human ability. "Why", he said, "there is not money enough, nor rails enough in all the world to do this thing." Said Secretary Shaw in December:<sup>2</sup> "We who pray should ask God to save

<sup>2</sup> *Commercial and Financial Chronicle*, January 5, 1907, p. 6.

us from any increased prosperity." Dividends were raised by the Union Pacific, the Southern Pacific, the Atchison, Topeka and Santa Fé, the Baltimore and Ohio, the Pennsylvania, the New York Central, the Lehigh, the Michigan Central, the Lake Shore, and the Norfolk and Western. Dividends were renewed on the United States Steel common. Surplus reserves fell below the legal limit four times during the year. Money rates rose. Government receipts were in excess of disbursements, and the Secretary of the Treasury helped to ease the situation by increasing government deposits and by making treasury advances to banks importing gold. An immense volume of American finance bills were floated in Europe representing borrowing abroad. Loans at home were difficult to place. Syndicates formed in previous years still had unsold bonds. Life insurance companies were compelled to unload some of their securities in order to meet their obligations growing out of the San Francisco earthquake disaster.

Great Britain's exports for 1906 were extraordinary. The greatest expansion occurred in the iron, steel and machine industry. Iron and steel were demanded in large quantities by Germany and the United States. This year marked the highest record ever reached for the importation of iron ore, the production of pig iron, the output from steel works, the exports for manufactured iron and steel, and shipping tonnage launched. The coal trade was also enormous due to the extreme prosperity particularly of the United States and Germany. The textiles were unable to meet the demand. Eighty of the large spinning companies averaged profits of about 18 per cent. Money was dear and scarce due to the strong demand from other countries for London gold. The bank rate was advanced to 6 per cent in October particularly to stop the large demand from New York. Russia, Germany, Egypt, India, Argentina and Brazil were also helping to drain the supply. The security market began to decline.

Germany's prosperity continued. Railroad earnings and pig iron production continued at the high levels reached at the close of the preceding year, and unemployment sought a still lower level. Loans were greatly extended by the Reichsbank.



Reserves declined, and the already high money rates were raised.

The industrial activity of the two preceding years continued in the United States until October, 1907. Pig iron production, railroad gross earnings and imports rose steadily higher. Industries generally flourished. Security values had been shrinking since the close of 1906. Corporations found it impossible to float bonds advantageously, and were compelled to resort to short time notes. The New York Central issued \$50,000,000 three-year 5 per cent notes, and the Pennsylvania \$60,000,000. Tension continued in the money market, particularly in June owing to large gold exports and treasury withdrawals. Finally came the disclosure of the affairs of the Mercantile National Bank of New York which had loaned heavily on copper securities. A run occurred on banks, first in New York, and later spread to other large cities. Many banks were compelled to close their doors. Cash could be secured only at a premium ranging from 5 per cent at the beginning of the period to 1 per cent toward the close of the year. Clearing-house certificates, and cashiers' checks were used as substitutes. The Treasury poured its resources into the banks, gold was imported in large quantities, and bank note circulation was considerably extended by the issue of Panama Canal bonds. After the panic, time loans were practically unobtainable for the rest of the year, though they were quoted at from 10 to 12 per cent.

In Great Britain, also, trade continued very prosperous for the greater part of the year. Her coal trade was greater than ever. Germany was so exceedingly prosperous that she required for her industries almost as much British coal as did France in spite of her large home supply. South America, Egypt and Europe increased their demand for coal. The iron and steel trade was equally fortunate during the first half of the year. Germany and the United States still continued to buy large quantities of these products, though this demand of course fell off at the close of the year. The copper trade was very good during the first half of the year, owing to the electrification of railroads and the very large expenditures all

over the world for ships and guns. The spinning trade was even more prosperous than the year before, scores of companies paying dividends of 30 to 35 per cent, and many others paying 18 to 20 per cent. A large demand came from the continent, continental spinners being unable to supply the local demand. New mills were being rapidly built. Ship-building suffered a considerable falling off from the preceding year. The stock market was depressed all during the year, with prices falling steadily. Heavy selling occurred in March and again in August. New security issues were not taken by the investing public, very large proportions being left on the hands of the underwriters. The high money rate of the preceding year was lowered to 4 per cent in April, and in August raised again to  $4\frac{1}{2}$  per cent. The panic in the United States forced it up to 7 per cent. France, Germany and Japan all helped to supply the London market with gold while London, in turn, was shipping enormous quantities to New York.

Germany's industrial activity continued to increase until October. Railroad gross earnings reached the highest figure in October as did also pig iron production. Unemployment reached its lowest point in September. Tension continued on the money market and rates averaged very high. Stocks declined rapidly during the course of the year.

The year 1908 was a period of deep depression in the United States. Pig iron production was reduced to almost one-half of the production of the preceding year. Imports were reduced by over \$300,000,000. Bank reserves rose to a high point and money was obtainable on very easy terms. The security market recovered rapidly during the entire year. Large issues of new securities were placed.

In Great Britain depression, low profits, and unemployment prevailed. The iron and steel trade was greatly depressed. The pig iron market especially felt the lack of any demand from the United States and Germany. Ship-building was almost paralyzed. The weaving branch of the cotton trade was very bad, though spinning was fairly good. The woolen trade suffered severely owing to large accumulation of goods in other countries and particularly in the far east. New issues

of securities were floated on an enormous scale. Still the stock market recovered slowly in spite of the rapidly rising market in the United States. Money was cheap throughout the year. Recovery became faintly evident late in the year.

Germany's history in 1908 is in the main similar to that of the other countries. Her production of pig iron declined though it was reduced by only one-tenth as compared to one-half in the United States. Railroad gross earnings also diminished some, but not severely. Unemployment was very great throughout the year. Wholesale prices dropped steadily until November. A slight revival of industrial activity was noticeable toward the close of the year. The stock market alone showed signs of marked improvement, the trend being upward from March on.

A skeleton summary of conditions is given in Table I.

TABLE I

	UNITED STATES	GREAT BRITAIN	GERMANY
1902	Prosperity	Semi-prosperity	Depression (partial)
1903	Depression (partial)	Depression (partial)	Semi-prosperity
1904	Depression	Depression	Depression
1905	Prosperity	Prosperity	Prosperity
1906	Prosperity	Prosperity	Prosperity
1907	Prosperity	Prosperity	Prosperity
1908	Depression	Depression	Depression

### C. THREE TYPES OF FLUCTUATIONS

Three kinds of fluctuations are involved in financial and industrial statistics, the seasonal, the cyclical and the secular.

The seasonal fluctuations are those which are due to the influence of the seasons, summer and winter, harvest and seed time. The seasons affect very greatly the prosperity of the clothing industry, railroad earnings, the coal trade, bank reserves, unemployment, and so on through the entire realm of business activity, though in some fields the influence of the seasons is less marked than in others. Railroad gross and net earnings, for example, invariably rise to the highest point in

the fall of the year; building invariably reaches the highest point in the spring of the year, and exports are regularly greatest in the fall. The seasonal fluctuations are therefore the short-time fluctuations which come and go with the seasons, and are due to the seasons.

Cyclical fluctuations are those due to the recurring waves of prosperity and depression. They have nothing to do with the seasons. Each cycle, from the crest of one wave to the crest of the next, is spread over a period of years. The cause or causes of these cycles lie obscured in the mazes of modern industry, explanations ranging all the way from meteorological cycles on the one hand to cycles of mob psychology on the other.

Secular fluctuations are mainly those due to the growth factor in progressive societies. Thus while railroad gross earnings for example rise and fall with the seasons, and in larger waves rise and fall with the cycles of prosperity and depression, each succeeding crest in the cycles seeks higher and higher levels because the country is rapidly growing in population, production and wealth. But some secular fluctuations are independent of the growth factor. Thus secular fluctuations in general prices may be due to changes in the issue of currency, increasing or decreasing production of gold. Hence secular fluctuations are the very long-time changes which in progressive countries generally are in the direction of growth.

#### D. THE ELIMINATION OF SECULAR AND SEASONAL FLUCTUATIONS

A study of cycles of prosperity and depression is of course concerned with the cyclical fluctuations alone. We are not interested in the actual fluctuations in which are combined the seasonal, cyclical and secular movements, but only in those phases of the fluctuations which are due to cyclical causes. Hence, in order to study the fluctuations of prosperity and depression in the most advantageous manner it would be highly desirable to eliminate from the actual data the fluctuations which are due to seasonal or secular forces. If annual data

are used, seasonal fluctuations do not appear. Hence only the secular fluctuations need be eliminated. Over a long period of time the secular fluctuations would be very considerable, and it would become highly desirable if not essential to eliminate them in order to concentrate attention on the cyclical changes. If the period considered is of short duration, the growth factor becomes less apparent, and may therefore more safely be disregarded. Especially is this true if the series under consideration have similar secular trends. On the other hand if the secular trends of two series are in opposite directions it may become necessary to eliminate the secular trends. In comparing the Banking Group with the Investment Group, and the Investment Group with the Industrial Group it was found desirable to eliminate the secular trends. Likewise in comparing the American composites with the European composites the trends were eliminated. The secular trends were determined by the method of moments.

The seasonal fluctuations also tend to obscure the cyclical movements. By eliminating the seasonal fluctuations the curves are smoothed out and the cyclical correlation between the series becomes more apparent. When the Pearsonian coefficient is used to establish correlation it is true that the cyclical correlation is vitiated but little by the seasonal fluctuations. Nevertheless some gain results from the elimination of the seasonal fluctuations.

That seasonal fluctuations should be eliminated might be objected to on the ground that even seasonal fluctuations have their influence on cyclical movements. The position taken by the writer is that this is true only of extraordinary fluctuations. Normal seasonal fluctuations could obviously never operate as influences affecting the cyclical movements. Extraordinary seasonal fluctuations would however influence the cyclical movements, but such extraordinary fluctuations over and above the normal are not eliminated by the method used in this study.

The method here used is to construct relative or index numbers from the actual data by using a new base for each of the twelve months of the year. The average of the actual figures

for each January in the seven-year period is used as the base for January data, the average of the actual figures for the seven Februarys is used as the base for February data and so on. Thus the average of all the January figures is divided into the figure for each January, and similarly for each of the other months of the year. In this way the normal monthly fluctuations as nearly as they could be judged by a seven-year period are eliminated, but any extraordinary fluctuation in any one month would still remain in so far as it was above normal. The method may be illustrated by giving the computations for a single series, viz., railroad gross earnings. The actual monthly data are given in Table II. The averages given in the right hand column are then used as bases, each base being divided into the actual figures for that month for each of the seven years. Table III gives the result of this computation. By reducing the actual numbers into relative numbers using the twelve averages for each month as bases, the seasonal fluctuations have been eliminated. The numbers for each month were summated to verify the result. Obviously the sum in each case should equal 700.0 but the use of the slide rule as well as the fact that the index numbers are carried out to only one decimal place makes this degree of accuracy impossible.



TABLE II—RAILROAD GROSS EARNINGS—(000 OMITTED)

Month	1902	1903	1904	1905	1906	1907	1908	Average for all Years
January.....	\$34,234	\$39,661	\$37,997	\$40,534	\$49,591	\$53,594	\$46,902	\$43,216
February.....	30,430	35,579	37,749	37,414	46,532	49,609	42,582	39,984
March.....	34,039	41,138	41,715	45,436	51,141	56,534	48,726	45,532
April.....	34,915	41,659	40,594	43,785	46,037	56,745	47,036	44,395
May.....	36,456	41,271	40,671	44,864	49,890	59,188	45,761	45,443
June.....	35,819	40,713	40,898	45,560	50,079	57,063	46,919	45,293
July.....	37,848	42,806	39,505	44,773	51,038	58,828	45,907	45,814
August.....	39,496	44,066	43,544	48,431	54,105	60,892	52,504	49,005
September.....	40,769	44,862	46,253	50,566	54,136	59,733	55,196	50,216
October.....	44,216	47,633	47,901	53,228	58,784	63,806	58,065	53,375
November.....	40,796	43,819	47,052	52,095	55,743	57,384	55,032	50,274
December.....	40,750	42,182	45,423	50,995	56,029	53,311	53,370	48,865

TABLE III—INDEX NUMBERS FOR RAILROAD GROSS EARNINGS

Month	1902	1903	1904	1905	1906	1907	1908	Base
January.....	79.3	91.8	87.8	93.8	115.0	124.0	108.5	43,216
February.....	76.2	87.8	94.5	93.8	116.7	124.2	106.6	39,984
March.....	74.7	90.3	91.5	99.7	112.1	124.2	107.0	45,532
April.....	78.7	93.9	91.5	98.6	103.4	127.9	106.0	44,395
May.....	80.2	90.8	89.4	98.7	109.8	130.1	100.8	45,443
June.....	78.7	89.7	90.4	100.6	110.6	126.0	103.5	45,293
July.....	82.3	93.5	86.5	97.9	111.3	128.4	100.2	45,814
August.....	80.6	90.0	88.9	98.8	110.5	124.2	107.1	49,005
September.....	81.2	89.3	92.1	100.9	107.9	119.0	110.0	50,216
October.....	82.9	89.2	89.7	99.7	111.0	119.7	108.6	53,375
November.....	81.3	87.2	93.6	103.6	110.9	114.0	109.5	50,274
December.....	83.3	86.2	93.0	104.2	114.7	109.0	109.1	48,865

## CHAPTER II

### THE ANALYSIS OF MONTHLY DATA FOR THE UNITED STATES

#### A. SCOPE OF DATA

Twenty-three series of monthly data for the United States were selected for study and analysis. They are as follows:<sup>1</sup>

1. Commodity Prices at Wholesale.
2. Prices of Consumers' Goods at Wholesale.
3. Prices of Producers' Goods at Wholesale.
4. Prices of Ten Investment Stocks.<sup>2</sup>
5. Prices of Forty Transportation Common Stocks.
6. Prices of West Shore Railroad Bond.
7. Prices on Ten Leading Railroad Bonds.<sup>3</sup>
8. Shares Traded on the New York Stock Exchange.
9. Liabilities of Business Failures.
10. Building Permits in Twenty Leading Cities.
11. Production of Pig Iron.
12. Railroad Gross Earnings.
13. Railroad Net Earnings.
14. Exports.
15. Imports.
16. Unemployment.
17. Immigration.
18. Total Bank Clearings, the United States.
19. Cash held by New York Clearing-House Banks.
20. Loans of New York Clearing-House Banks.
21. Deposits of New York Clearing-House Banks.
22. Call Loan Rates.
23. Prime Commercial Paper Rates.

<sup>1</sup> Prices of consumers' and producers' goods were obtained from the *Bulletin* of the U. S. Department of Labor, January-May, 1912, pp. 520-523.

Prices of Forty Transportation Stocks and the West Shore Railroad Bonds were obtained from W. C. Mitchell, *Business Cycles* (Berkeley, 1913) 212-213. Call loan rates were also obtained from Mitchell, pp. 153-155.

The figures for Unemployment were obtained from Hornell Hart, *Fluctuations in Unemployment in Cities in the U. S., 1902 to 1917*, Helen S. Trounstone Foundation, Cincinnati, Ohio.

All other data were obtained from Babson's *Desk Sheet of Tables*.

<sup>2</sup> The Ten Investment Stocks are Central of New Jersey; Chicago, Milwaukee & St. Paul; Delaware & Hudson; Great Northern & Ore. cert; Illinois Central; Louisville & Nashville; New York Central, N. Y., N. H. & Hartford; Pennsylvania; Pullman.

<sup>3</sup> The Ten Bonds are Atchafalaya, Top. & S. Fe Gen. 4's; Baltimore & Ohio 1st 4's; Central of Georgia Cons. 5's; Central of N. J. Gen. 5's; Chicago & Alton Ref. 3's; Col. & Southern 1st 4's; N. Y. Central Ref. 3½'s; St. Louis & San Fran. Ref. 4's; Southern Ry. Cons. 1st 5's; Wabash 1st 5's.

Here is a heterogeneous group of statistical series all of which are related in a causal way somehow or other to the cycle of prosperity and depression. The problem before us is to ascertain their relation to that cycle and to each other.

The raw figures in the incommensurable terms of tons, dollars, per cents, etc., are not usable. They must be reduced to a common denominator to make them comparable. This may be done by reducing the actual figures to relative figures, or index numbers. The seasonal fluctuations which confuse and obscure the cyclical changes must also be eliminated. Both of these ends were accomplished by reducing the actual data to index numbers by means of the method described in the last chapter.

If these index numbers are plotted it will be seen at once that out of the chaos of incomprehensible raw figures which, disturbed by the seasonal fluctuations, seemed to move in all sorts of directions, an orderly trend of cyclical fluctuations appears. The next problem is to analyze and classify the place of each series in the cycle of prosperity and depression.

All the series rise and fall with equal wave lengths, but they do not rise and fall synchronously. Which rise first, which lag behind and how much? Which series forecast prosperity, which indicate prosperity and which, if any, may be said to be the moving forces of the entire cycle movement?

Here must be applied tests of synchronous correlation, which can only be worked out very roughly by comparing the plotted curves of the index numbers of the different series. In order to determine correlation more definitely, mathematical formulae of correlation become necessary. The Pearsonian coefficient is the method here used to establish correlation, and to determine whether the series are synchronous or whether there is a lag, and if so how much of a lag.

Two points may be noted with regard to the coefficients that appear in the following pages. First, the nearer the coefficient approaches  $+1$  or  $-1$  the more perfect is the evidence of direct or inverse correlation. It is of course evident that if a small number of items are used a high coefficient may be purely accidental. The larger the number of items used the smaller

is the probable error. In the present study 84 items are used which makes the probable error for any fair sized coefficient very small. For instance, the coefficient of correlation between call loan rates and cash reserves is  $-.477$ , and the probable error is  $\pm .048$ . This is very nearly the smallest coefficient and the largest probable error in the entire study. In this case the coefficient is nearly ten times as large as the probable error. In short in this study a coefficient of  $.475$  represents good correlation, while  $.600$  or above indicates very high correlation.

In the second place it may be noted that several coefficients are given for each series, indicating the coefficient for varying lags. Examination of the tables will show that the coefficients increase to the point of maximum correlation and then steadily decline. In other words the highest coefficient would indicate the degree of lag if there is any.<sup>33</sup> Thus if two series fluctuate synchronously the coefficients of correlation would be highest for concurrent correlation, somewhat smaller for a lag of one month, and still smaller for a lag of two months. Thus the coefficients would become steadily larger until the two series were concurrent, and then steadily decrease again. In this study coefficients are scarcely necessary to prove the existence of correlation. They are used largely for the purpose of determining whether or not the series are synchronous, or whether one lags behind the other, and if so how much.

### B. THE THREE GROUPS

A large number of correlations were worked out between the twenty-three series to test the relative position of each series in the cycle of prosperity and depression. Through this process, from the twenty-three series were finally selected three main groups which may be termed the Investment, Industrial, and Banking Groups. The Investment Group includes series that anticipate general prosperity or depression and are related to the investment market. The Industrial Group includes those series which constitute the very essence and substance of prosperity and depression; it is the touch-

<sup>33</sup> Cf. W. M. Persons, "Construction of a Business Barometer," *Am. Econ. Rev.*, December, 1916, p. 750.

stone, the barometer of good and bad times. The Banking Group represents the monetary and credit facilities, the tools and instruments of the modern business mechanism.

### 1. THE INVESTMENT GROUP

The following series were classified in the Investment Group:

1. Prices of ten investment stocks.
2. Prices of forty transportation stocks.
3. Shares traded on the New York Stock Exchange.
4. Total bank clearings.
5. Liabilities of business failures.
6. Building permits.
7. Railroad net earnings.
8. Prices of ten railroad bonds.

The index numbers for the different series in this group are given in Table A in the Appendix to this chapter.

Here are classed two types of series: first, forecasters of prosperity representing the capitalization or valuation of prospective profits; second, forerunners of general prosperity or depression.

In the first mentioned type belong the two series of stocks, the railroad bonds, the volume of shares traded on the stock exchange, and the liabilities of business failures. These series are closely related to the stock market. The stock market is an institution where specialists armed with every available information are engaged in the work of determining the trend of profits in business. The resulting stock market prices are the capitalized value of the anticipated profits. To the superficial observer it appears as though the stock market prices are the result of the arbitrary bidding of wild speculators. But the man on the stock exchange knows that he is dealing with an objective reality which rests on solid facts, and in so far as he misjudges these facts he will most certainly crash up against a stone wall. The stock market is not the arbitrary product of a few hundred individual minds. It rests on the solid basis of earnings, earnings however which are not patent to all, but which lie obscured in the future. It is the speculators' business to forecast what they will be. Selwyn-Brown puts it

well as follows: "The leading investors on the stock exchanges are among the largest bankers, corporation directors and business men in the country. They are in close touch with developments all over the world. Their agents and information bureaus enable them to watch every small change in corporation earnings and expenditures, crop values and prospects, the state of the money market. They are the great discounters of the future. . . ."<sup>4</sup>

To the second type, the forerunners of prosperity and depression, belong bank clearings, building operations, and railroad net earnings. They do not represent the anticipation of prospective profits as do stock prices, but are rather the advance guard of prosperity or depression.

Bank clearings represent on the one hand activity on the stock exchange, and general industrial activity on the other hand. Hence this series falls in point of time between the Investment Group proper and the Industrial Group. Bank clearings therefore anticipate general industrial activity.

Building operations feel the effect of the new turn in affairs sooner than general business. The growing demand which ushers in prosperity first makes itself felt in new construction work. This is the necessary preliminary to a general extension of business and industrial activity. Likewise when demand begins to fall off the building industry is first affected. When bank credit begins to contract and discount rates are high, available capital will be utilized for the operation of businesses already greatly extended. Construction work on a large scale in such periods would be decidedly inopportune.

Railroad net earnings anticipate general prosperity conditions by a few months. Railroad gross earnings on the other hand move synchronously with general prosperity conditions. Net earnings probably tend to anticipate gross earnings in the railroad industry somewhat more than in other industries due to the fact that in this industry, unlike others, the selling prices (rates) are fixed, while costs mount up as in other industries during the period of prosperity. Gross earnings continue to rise so long as the volume of traffic increases, but when costs

<sup>4</sup>Selwyn-Brown, "Economic Crises and Stock Security Values," *Annals of the American Academy of Political and Social Science*, XXXV, 636-645.



begin to mount up net earnings are cut into. In other industries gross earnings are increased not only by the greater volume of business but also by the rise in selling prices. Costs lag behind selling prices at first, but toward the close of the period of prosperity rise more rapidly than selling prices. Thus in all industries net earnings tend to precede gross earnings.

The average prices of ten investment stocks were taken as the best single representative of the Investment Group and it was correlated with each of the other series. Table IV gives the coefficients of correlation between each series and the ten investment stocks. Correlation was tried in each case with the ten investment stocks preceding the other series by one or more months, then making the two series concurrent, and then lagging the ten investment stocks one or more months. This was done in order to determine the point of highest correlation.

It now appears that between the first three series in our group—the average prices of the ten investment stocks, the average prices of the forty transportation stocks and the shares traded, the highest correlation exists when they are perfectly concurrent. The liabilities of business failures precedes one month. Bank clearings and building permits lag three months behind, and railroad net earnings lag six months behind.

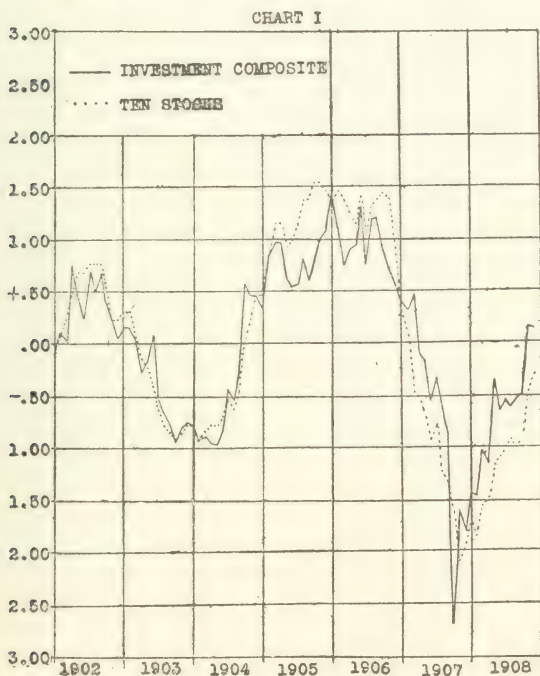
Three series then correlate synchronously, while one series precedes the rest by just one month. The fluctuations of four of the series in the general Investment Group are then substantially synchronous. These four series were combined to form a single Investment Composite. The natural method of doing this would be to find the average of the index numbers for each month. But here a difficulty arises. In some series the fluctuations are much larger than in others. If all the relative figures were summated for each month and an average struck, the series having the widest fluctuations would be given greatest weight in the composite series. In order to obviate this difficulty and give each series approximately the same weight in the composite, the fluctuations in the different series were reduced to approximately the same amplitude. This result was accomplished by the following method. The deviation of each item from the average was divided by the standard

TABLE IV—COEFFICIENTS OF CORRELATION—INVESTMENT GROUP

Series correlated with average prices of Ten Investment Stocks	Each series precedes (—) or lags behind (+) the Ten Investment Stocks by:										
	—3 mo.	—2 mo.	—1 mo.	0 mo.	+1 mo.	+2 mo.	+3 mo.	+4 mo.	+5 mo.	+6 mo.	+7 mo.
Forty Common Stocks . . . . .			+ .875	+ .904	+ .890						
Shares Traded . . . . .			+ .569	+ .580	+ .542						
Liabilities of Business Failures		— .521	— .542	— .520	— .499						
Ten Bonds . . . . .	+ .799	+ .808	+ .807	+ .792	+ .757						
Bank Clearings . . . . .			+ .408	+ .513	+ .532	+ .538	+ .557	+ .554			
Building Permits . . . . .			+ .421	+ .437	+ .455	+ .470	+ .482	+ .478			
Railroad Net Earnings . . . . .								+ .393	+ .435	+ .473	+ .470

deviation of that series. Thus the items of each series were reduced to new relatives, the standard deviation being used as the base. The standard deviation was used in preference to the average deviation because it gives greater weight to the extreme deviations, and therefore serves to equalize more perfectly the fluctuations of the different series.

The relatives for the composite thus constructed may be found in Table D, Appendix to Chapter II. In the case of the liabilities of business failures the signs were reversed since



this series correlates inversely with the rest in the group. The correlation between the composite and the Ten Stocks is shown graphically in Chart 1.

## 2. THE INDUSTRIAL GROUP

By preliminary tests of correlation I attempted in the second place to classify those series which seem the best indicators of prosperity and depression. Here we are interested in those series which constitute the essence of industrial activity.

Obviously one such series would be the production of pig iron. In this age of steel no better barometer of prosperity and depression could be found. Pig iron is the basic material of the modern machine age. It is therefore a sensitive indicator of industrial prosperity.

But most writers on crises and prosperity cycles have selected by general accord commodity prices at wholesale as a universal and dependable indicator or barometer of industrial conditions. Because of the somewhat greater uniformity of the fluctuations of commodity prices I have selected it as the standard series of this group.

Of the remaining series under examination it was found that railroad gross earnings, imports, exports, unemployment and immigration belong to this general group. Railroad gross earnings would be expected to be a fairly good indicator of industrial conditions. The volume of transportation naturally varies with the volume of production, and with relatively fixed rates the gross earnings of railroads may be expected to vary with the volume of transportation.

Imports and exports increase with increased prosperity because the volume of production is greater both at home and abroad. The increase in production results in a greater volume of exchanges between countries.

Unemployment and immigration are closely bound up with industrial activity and belong to this general group. With a slowing down of the industrial machine, workers are thrown out of a job, and prospective immigrants are warned to stay at home.

To the Industrial Group therefore belong the following:

1. Commodity prices at wholesale.
2. Production of pig iron.
3. Railroad gross earnings.
4. Imports.
5. Immigration.
6. Unemployment.
7. Exports.

The Index numbers for these series are given in Table B.

Each of these series was correlated with wholesale prices which was taken as the standard representative of the group. The coefficients of correlation are given in Table V.

From this table it appears that gross earnings and immigration fluctuate concurrently with wholesale prices, while production of pig iron and imports precede wholesale prices one month. The exports series lags four months behind wholesale prices. Unemployment precedes prices three months. Railroad net earnings has been included in the table. It will be noticed that it precedes prices four months.

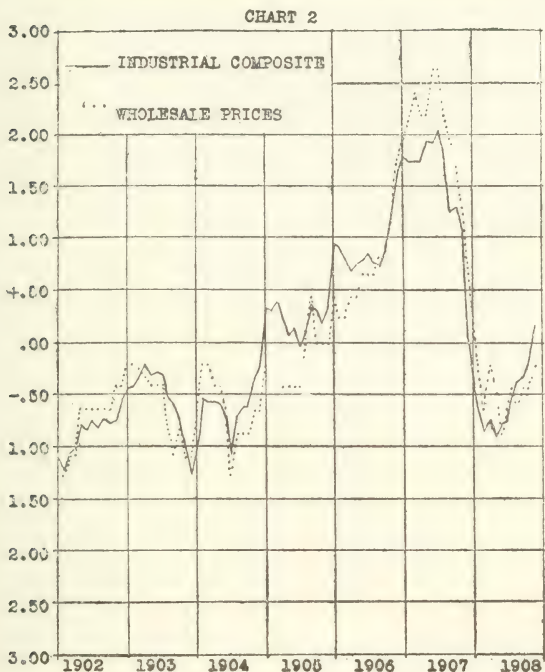
Unemployment, as was noted above, does not seem to correlate synchronously with wholesale prices. This seems somewhat puzzling as one would expect unemployment to be a very clear barometer of prosperity and depression, being in fact the very reverse of industrial activity. This may possibly be explained in part at least by the fact that the building series precedes the industrial group by several months. The slackening of building operations would affect unemployment. The same is doubtless also true of other industries in the class of pure producers' goods.

The five series which are substantially concurrent, viz., wholesale prices, production of pig iron, railroad gross earnings, imports and immigration, were then combined to form the Industrial Composite. The method used was the same as the one described above. New relatives were constructed with the standard deviation being used as the base. The results are given in Table D. The composite and wholesale prices are shown graphically in Chart 2.

TABLE V—COEFFICIENTS OF CORRELATION—INDUSTRIAL GROUP

Series correlated with Wholesale Prices	Each series precedes (—) or lags behind (+) wholesale prices by:										
	—5 mo.	—4 mo.	—3 mo.	—2 mo.	—1 mo.	0 mo.	+1 mo.	+2 mo.	+3 mo.	+4 mo.	+5 mo.
Production of Pig Iron.....				+.785	+.797	+.780	+.725				
Imports.....				+.885	+.905	+.891	+.843				
Railroad Gross Earnings....					+.837	+.857	+.854				
Immigration.....					+.688	+.696	+.663				
Exports.....						+.725	+.734	+.741	+.744	+.758	+.740
Unemployment.....		— .707	— .719	— .705	— .673	— .626					
Railroad Net Earnings.....	+.744	+.755	+.745								





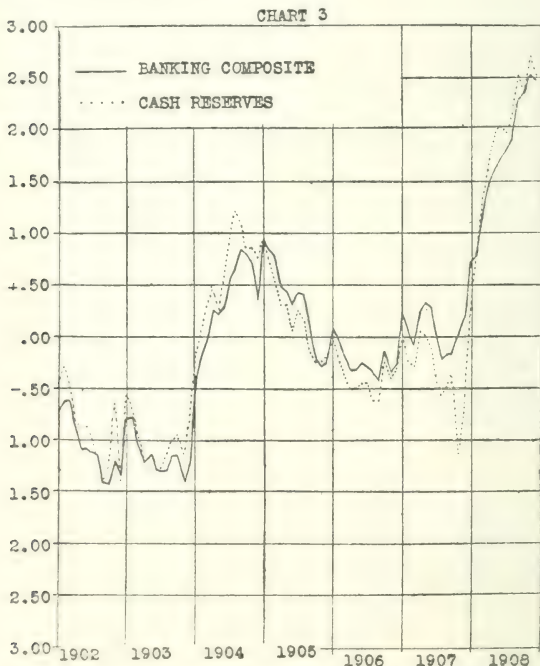
### 3. THE BANKING GROUP

The third grouping derived from the twenty-three series through tests of correlation was the Banking Group. To this group belong the reserves of the banks, bank deposits, bank loans and discounts, call loan rates and commercial paper rates. The index numbers for these series are found in Table C.

For our period direct correlation is found to exist between the first three series named. When bank reserves are large it is found that bank loans and deposit liabilities are increased. With diminished reserves it is found that loans are contracted

and with that goes a diminution of bank deposits. The remaining two series in the group correlate in inverse ratio with the rest of the group. Money rates are high when bank reserves are depleted, and low when there is a plethora of funds.

Bank reserves, deposits and loans drop during the period of prosperity and find their lowest level at the crisis period, while they rise during the period of depression. Money rates on the other hand rise during the period of prosperity and fall after the crisis and during depression.



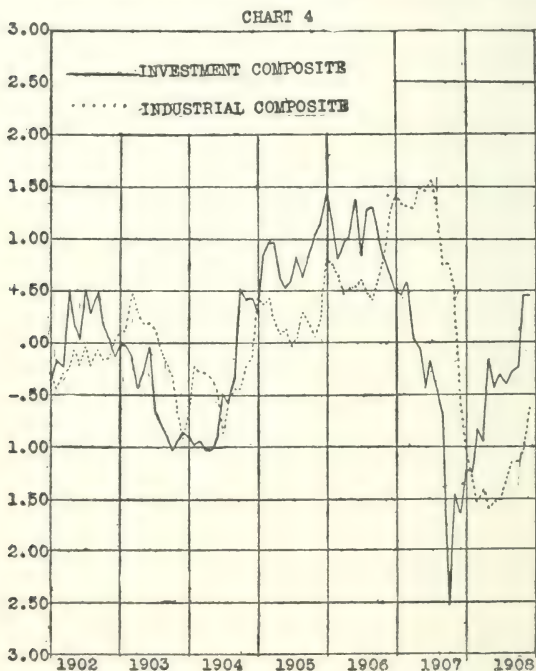
Reserves were selected as the best single representative of the group. Coefficients of correlation were worked out between it and the other series testing various lags as before. The results are given in Table VI.

TABLE VI—COEFFICIENTS OF CORRELATION—BANKING GROUP

Series Correlated with Cash Reserves	Each series precedes (—) or lags behind(+) cash reserves by:					
	—1 mo.	0 mo.	+1 mo.	+2 mo.	+3 mo.	+4 mo.
Loans.....	+ .838	+ .889	+ .801			
Deposits.....	+ .917	+ .956	+ .950			
Call Loan Rates.....	— .459	.477	— .434			
Commercial Paper Rates.....	— .537	— .631	— .646	— .679	— .686	— .646

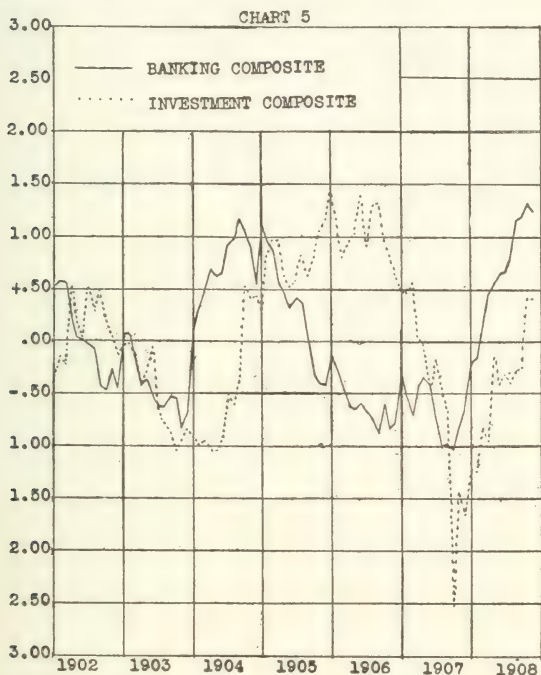
From this table it is clear that reserves, deposits, loans, and call loan rates have synchronous cyclical fluctuations. The commercial paper rates series lags three months behind.

A Banking Composite was next constructed. For this composite I selected the three closely related series—cash reserves,



loans and deposits. Call loan rates correlate synchronously but inversely with the banking series named above, and might well have been included in the composite. However I concluded to present separately the movement of money rates as it actually occurs without inverting the series. Hence the composite includes only the series that correlate directly with cash reserves.

The Banking Composite was constructed by the method already described. The relatives for the composite are given in Table D. Chart 3 shows the fluctuations of the composite and the cash reserves.



### C. THE RELATION BETWEEN THE GROUPS

The question now arises: What is the chronological relation of the three series—the Investment Group, the Industrial Group and the Banking Group—to one another? It is not the purpose at this point in the discussion to enter into the theory of their causal relations to each other. That will be treated fully in Chapter IV. The purpose here is merely to ascertain their position chronologically.

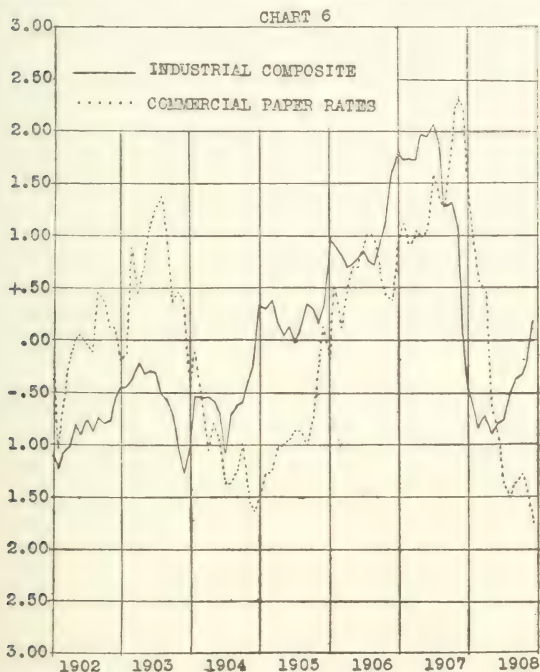
Charts 4 and 5 show the relation between the industrial, investment and banking composites. In these charts the secular trends have been eliminated by the method of moments. The relatives appear in Table K, Appendix to Chapter III. The Industrial Composite lags behind the Investment Composite by several months. It will be noticed that the lag is very much more marked at the crest of the wave than it is at the trough of the wave.

The relation between the Banking Composite and the Investment Composite appears in Chart 5. The Investment Composite lags considerably behind the Banking Composite. Again it will be noticed that the lag is much more pronounced at the crest than at the trough of the wave.

Chart 6 has been added in order to show the relation of discount rates to the business cycle. In this case the secular trends are not eliminated. It will be remembered that call loan rates correlate synchronously but inversely with cash reserves, loans and deposits. Commercial paper rates also correlate inversely, but lag three months behind. Discount rates, if inverted would therefore move in the same direction as reserves, loans and deposits. In Chart 6, however, the real movement of commercial paper rates is plotted along with the industrial composite. It will be seen that the money rates lag somewhat behind. From this it is obvious that reserves, loans and deposits would also correlate with the industrial composite with only a slight lag. In this case, however, the correlation would be inverse. As a matter of fact all the banking series have commonly been thought of as lagging slightly behind the business barometer. In the opinion of the writer this relegates them altogether too much to the position of mere lagging reflexes of business conditions. For reasons that will be set forth fully in Chapter IV the writer believes that the causal relation works on the whole the other way. If it is thought that reserves, loans and deposits rise as a result of depression and fall as a result of prosperity, then naturally the fluctuations of these series will be thought of as lagging behind, and therefore moving inversely with the other series in the business cycle. If on the other hand the movements of reserves,



loans and deposits are thought to be causal factors resulting in similar movements in stock and commodity prices, production and profits, then the fluctuations of these series will naturally be thought of as moving in the same direction but preceding the other series in the business cycle. Chart 5 suggests the latter view. Following out this line of reasoning it is clear



that discount rates fluctuating in response to the movements of reserves, loans and deposits, constitute a causal factor affecting business conditions. But if one has his eye on the lag which appears in Chart 6, one is apt to conclude that discount rates are merely a result of business conditions. In interpreting Chart 6 it is therefore necessary to be on one's guard.

When discount rates for example begin to drop, one should consider it not so much a belated index of depression as a harbinger of better things to come. The writer does not deny, however, that the causal relation works both ways.

The exact lag of the various series shown in these charts can be established more definitely by means of the Pearsonian coefficient. The coefficients of correlation between the Banking Composite and the Investment Composite are as follows:

Banking Composite precedes.....	11 months,	+.581
" " " .....	12 "	+.593
" " " .....	13 "	+.561

It therefore appears that the Investment Composite lags 12 months behind the Banking Composite. It must be remembered however that the lag is very much more marked at the crest of the wave than it is at the trough of the wave.

The coefficients of correlation between the Investment Composite and the Industrial Composite are as follows:

Investment Composite precedes.....	7 months,	+.756
" " " .....	8 "	+.770
" " " .....	9 "	+.735

The Industrial Composite then lags 8 months behind. Here again the lag is greater at the crest of the wave.

The coefficients of correlation between the Industrial Composite and the Commercial Paper Rates are as follows:

Industrial Composite precedes.....	4 months,	+.681
" " " .....	5 "	+.688
" " " .....	6 "	+.676

The Commercial Paper Rates series therefore lags 5 months behind the Industrial Composite.

To summarize the foregoing, it appears that the Banking Group moves first chronologically; lagging behind it is the Investment Group; and lagging behind the Investment Group in turn is the Industrial Group. Of the twenty-three series examined the following belong in each group. The different series for each group are substantially synchronous.

- I. Banking Group.
  1. Reserves in New York clearing house banks.
  2. Deposits in New York clearing house banks.
  3. Loans in New York clearing house banks.
  4. Call loan rates.
- II. Investment Group.
  1. Prices of ten investment stocks.
  2. Prices of forty common transportation stocks.
  3. Shares traded on the New York Stock Exchange.
  4. Liabilities of business failures.
- III. Industrial Group.
  1. Wholesale prices.
  2. Production of pig iron.
  3. Railroad gross earnings.
  4. Imports.
  5. Immigration.

To the Banking Group belongs also commercial paper rates but it was omitted from the above classification since it lags 3 months behind the rest.

To the Investment Group belong in a general way ten bonds, building permits, bank clearings and railroad net earnings. But they were omitted above because the ten bonds precede 2 months, bank clearings and building permits lag behind 3 months, while railroad net earnings lag 6 months behind.

To the Industrial Group belong in a general way unemployment and exports. They were excluded from the composite because unemployment seems to precede the group by 3 months, while exports lag 4 months behind.

#### D. COMPARISON WITH OTHER GROUPINGS

The results of this study differ in certain particulars from the groupings used by the Brookmire and Babson services, and from the grouping made by Professor W. M. Persons in his study of annual data.<sup>5</sup> This may best be shown by outlining the groupings of each of the two services, and of Professor Persons. Their groupings are as follows:

<sup>5</sup> W. M. Persons, "Construction of a Business Barometer," *American Economic Review*, VI, 739-769.

## 1. BROOKMIRE'S GROUPINGS

- I. Banking Group.
  - 1. Reserves.
  - 2. Deposits.
  - 3. Percentage of loans to deposits.
  - 4. Percentage of reserves to loans.
  - 5. Rate of commercial paper.
- II. Investment Group.
  - 1. Thirty-two leading stocks.
- III. Business Group.
  - 1. Bank clearings.
  - 2. Railroad earnings.
  - 3. Pig iron production.
  - 4. Pig iron prices.
  - 5. Commodity prices.
  - 6. Imports.
  - 7. Building.
  - 8. Immigration.

The writer would offer no objection to the first two groupings, but the results of the investigations given in this chapter would indicate that bank clearings and building should not be included in the business group.

## 2. BABSON'S GROUPINGS

- I. Monetary Group.
  - 1. Domestic money rates.
  - 2. Foreign money rates.
  - 3. Foreign trade.
  - 4. Commodity prices.
- II. Investment Group.
  - 1. Leading crops.
  - 2. Railroad earnings.
  - 3. Stock prices.
  - 4. Political factors.
- III. Mercantile Group.
  - 1. Immigration.
  - 2. New building.
  - 3. Commercial failures.
  - 4. Bank clearings.

The present study indicates that these groupings are badly mixed up. Foreign trade and commodity prices belong more properly with immigration. The present study would also indicate that commercial failures is entirely in the wrong place when grouped with immigration. Bank clearings and business failures may more properly be placed with the Investment Group.

### 3. PERSONS' GROUPINGS

- I. Forecaster.
  1. Shares traded.
  2. Prices of stock.
  3. Bank clearings.
  4. New railroad mileage.
  5. Percentage of business failures.
- II. Barometer.
  1. Gross receipts of railroads.
  2. Net earnings of railroads.
  3. Coal produced.
  4. Exports.
  5. Imports.
  6. Production of pig iron.
  7. Price of pig iron.
  8. Immigration.
  9. Relative wholesale prices.
- III. Classed as Synchronous with Barometer.
  1. Ratio of loans to resources.
  2. Ratio of cash to deposits.
  3. Surplus Reserves of New York Associated Banks.

The study of monthly data shows that exports lag 5 months behind imports; that railroad net earnings precede railroad gross earnings and the rest of the industrial group by 4 months. As has already been pointed out the group classed as synchronous with the barometer by Professor Persons, the writer believes might more properly be classed as a separate group.<sup>5a</sup>

<sup>5a</sup> Unfortunately, this was written before Professor Persons' able studies of monthly data were published in the *Review of Economic Statistics*. He there does classify a separate banking group, but the position he gives it in the business cycle differs from mine.

## APPENDIX TO CHAPTER II

TABLE A—INDEX NUMBERS OF THE SERIES IN THE AMERICAN INVESTMENT GROUP

	10 Invest- ment Stocks	40 Common Stocks	10 Leading Bonds	Shares Traded	Total Bank Clearings	Liabilities of Business Failures <sup>a</sup>	Building Permits	R. R. Net Earnings
1902								
January.....	99.7	100.7	104.7	73.2	86.9	102.3	69.8	97.0
February.....	100.8	105.0	105.2	88.6	85.7	97.4	105.8	97.0
March.....	103.2	107.9	105.9	61.9	80.4	76.9	75.2	83.5
April.....	105.8	112.8	106.1	141.2	99.5	76.1	67.4	86.1
May.....	108.5	114.7	106.0	84.1	95.4	88.0	77.1	82.5
June.....	108.6	117.3	106.0	82.4	82.4	115.9	81.5	81.4
July.....	110.2	117.7	106.2	114.5	95.5	75.7	86.2	87.7
August.....	110.2	120.8	106.0	78.5	88.5	82.8	68.6	81.6
September.....	109.9	120.0	105.8	120.0	99.0	113.3	67.2	86.2
October.....	106.9	115.8	104.7	86.1	93.3	93.7	65.6	98.0
November.....	102.8	109.7	104.9	85.3	88.1	79.9	64.1	85.4
December.....	102.5	103.5	103.3	75.1	81.7	87.0	71.3	84.6
1903								
January.....	103.6	109.0	102.5	79.2	90.5	92.8	73.6	83.8
February.....	104.0	110.2	101.7	74.5	86.8	94.1	79.6	93.9
March.....	101.3	105.5	101.0	78.1	86.7	99.1	102.1	95.5
April.....	98.2	99.9	100.3	65.4	87.2	122.1	75.7	105.6
May.....	97.5	98.3	101.0	77.5	83.6	119.0	80.1	98.1
June.....	95.2	89.7	100.1	133.9	94.6	95.0	65.8	87.6
July.....	92.1	83.9	98.6	104.3	91.2	183.1	70.5	95.7
August.....	90.5	77.8	98.2	78.8	78.4	111.7	71.8	90.1
September.....	89.0	75.4	98.4	61.8	74.8	81.7	55.4	91.4
October.....	88.0	74.5	99.2	67.9	75.4	158.8	69.0	91.7
November.....	89.1	74.8	100.0	53.9	71.3	86.9	64.3	89.1
December.....	90.4	78.3	99.6	72.7	76.9	138.4	69.8	86.1



1904	January.....	90.5	79.8	98.9	60.7	77.1	132.0	73.8	76.7
	February.....	88.5	77.3	98.3	60.0	79.2	136.3	54.9	94.7
	March.....	89.1	77.4	98.5	59.2	76.1	130.7	77.4	87.5
	April.....	90.5	78.2	99.4	43.7	75.7	135.9	42.6	90.2
	May.....	90.2	76.4	99.7	32.9	75.5	94.9	77.8	88.1
	June.....	91.2	77.7	100.3	43.2	81.0	96.6	85.0	92.7
	July.....	92.8	80.8	101.3	87.3	81.4	96.3	84.4	85.7
	August.....	92.0	84.7	101.8	68.5	79.4	107.7	87.0	92.3
	September.....	94.2	89.2	102.5	107.3	86.4	145.1	104.3	102.8
	October.....	100.0	97.2	103.2	171.2	94.7	90.9	87.7	93.8
	November.....	103.3	102.1	103.2	159.0	109.2	153.7	99.7	98.4
	December.....	106.3	100.8	103.8	134.3	106.1	98.3	99.6	90.0
1905	January.....	106.3	102.6	103.1	102.7	96.6	74.4	102.9	84.6
	February.....	110.7	109.3	103.8	152.2	109.2	84.3	120.0	77.5
	March.....	115.1	114.6	104.1	150.9	117.0	94.4	128.5	102.4
	April.....	115.2	111.1	104.3	155.9	116.0	83.3	115.0	96.6
	May.....	111.5	106.4	103.9	127.4	110.7	86.1	107.8	97.2
	June.....	113.1	107.8	104.4	109.2	108.8	100.1	122.7	97.0
	July.....	114.5	110.8	104.3	92.9	102.0	67.3	114.9	90.5
	August.....	117.9	113.8	104.5	111.0	107.9	63.1	135.2	99.1
	September.....	117.8	113.8	104.6	91.6	106.1	90.8	135.5	108.2
	October.....	120.4	116.8	104.6	93.0	103.8	58.3	106.4	102.9
	November.....	120.2	116.4	104.3	133.7	114.6	83.0	123.1	109.6
	December.....	118.5	116.4	103.5	150.5	119.6	78.9	112.4	114.6
1906	January.....	118.4	121.1	102.2	190.2	133.2	98.6	152.4	125.8
	February.....	118.7	120.0	102.1	145.2	127.9	87.6	131.2	130.7
	March.....	117.5	119.7	101.9	100.7	117.8	98.8	121.8	118.1
	April.....	116.3	118.3	101.4	129.5	117.3	82.6	143.8	100.3
	May.....	115.4	117.4	100.8	149.4	121.5	111.6	124.8	107.6

TABLE A—Continued

	10 Invest- ment Stocks	40 Common Stocks	10 Leading Bonds	Shares Traded	Total Bank Clearings	Liabilities of Business Failures <sup>6</sup>	Building Permits	R. R. Net Earnings	
1906	June.....	118.2	120.1	101.2	176.9	123.0	92.6	120.1	112.1
	July.....	113.6	115.1	100.7	114.5	109.2	77.1	123.5	112.6
	August.....	117.1	121.0	100.4	174.5	130.1	133.8	133.9	131.3
	September.....	118.2	122.3	100.1	148.9	122.0	68.7	129.8	110.9
	October.....	119.3	122.7	101.0	115.1	119.6	98.3	129.7	110.8
	November.....	118.2	120.4	101.3	96.6	119.1	96.3	128.8	113.4
	December.....	111.0	118.0	100.0	97.7	118.1	97.1	131.0	119.7
1907	January.....	103.8	111.3	98.5	112.3	122.8	109.8	156.9	125.0
	February.....	101.1	107.4	98.2	112.2	121.2	87.8	137.9	113.3
	March.....	93.8	98.7	98.6	166.9	132.7	91.7	125.9	116.0
	April.....	93.4	98.4	97.0	102.4	115.1	108.4	156.9	123.9
	May.....	91.0	95.3	94.9	98.5	113.9	99.2	148.7	127.0
	June.....	87.9	95.0	94.9	84.7	111.9	194.8	122.7	126.7
	July.....	89.8	97.9	95.1	89.8	116.1	143.7	114.5	114.1
	August.....	83.7	87.6	93.9	85.4	114.3	126.1	108.5	103.8
	September.....	83.3	86.6	92.5	70.0	103.0	171.2	99.5	94.7
	October.....	78.6	76.7	90.0	91.3	113.4	863.9	107.2	99.1
	November.....	72.6	70.8	87.3	48.1	84.4	235.5	75.0	91.8
	December.....	75.2	73.0	89.7	60.4	78.0	377.4	83.9	89.7

January.....	77.6	75.7	89.6	82.5	92.7	328.8	70.3	107.1
February.....	76.2	76.5	90.6	67.2	89.9	236.2	69.9	89.3
March.....	79.6	76.9	90.0	82.6	88.7	192.3	68.9	97.1
April.....	81.0	82.1	91.6	62.0	89.0	220.5	98.4	97.4
May.....	85.1	91.6	93.5	130.2	99.7	196.0	83.4	99.5
June.....	85.8	92.5	93.3	83.9	98.7	183.8	102.6	102.7
July.....	86.7	93.7	93.6	97.0	104.0	199.8	105.9	114.0
August.....	88.3	94.1	95.1	103.4	101.5	253.3	94.8	98.8
September.....	87.5	93.4	96.4	100.6	108.5	199.5	108.1	105.8
October.....	87.6	97.0	97.4	75.1	99.8	143.9	134.2	103.4
November.....	94.5	105.9	99.0	124.0	113.2	124.5	145.0	109.0
December.....	96.0	110.1	100.1	109.8	119.1	125.6	131.9	115.8
January.....	171.2	230.64	102.7	20,235.000	12,259.000	13,999.000	22,700.000	12,626.000
February.....	169.3	226.21	102.9	14,660.000	9,753.000	11,592.000	24,000.000	10,789.000
March.....	166.8	221.29	102.7	19,321.000	11,034.000	10,547.000	40,500.000	14,203.000
April.....	167.0	220.64	102.5	18,797.000	10,987.000	9,639.000	42,800.000	13,410.000
May.....	165.4	216.71	102.2	16,030.000	10,901.000	10,339.000	42,400.000	14,136.000
Base June.....	164.4	215.71	102.4	11,503.000	9,966.000	8,775.000	45,200.000	11,817.000
July.....	166.5	219.71	101.9	14,286.000	10,646.000	9,139.000	39,800.000	15,524.000
August.....	169.3	224.79	101.8	18,230.000	10,107.000	9,740.000	35,600.000	17,740.000
September.....	170.6	227.86	101.8	17,481.000	10,255.000	8,850.000	33,700.000	17,925.000
October.....	168.6	223.92	101.5	19,000.000	12,169.000	11,581.000	35,200.000	19,821.000
November.....	167.6	224.71	100.9	20,100.000	11,465.000	10,677.000	30,700.000	17,610.000
December.....	168.0	228.96	101.8	20,951.000	12,080.000	13,710.000	25,800.000	16,092.000

<sup>a</sup>In the case of Liabilities of Business Failures a five-year average was used for the base instead of a seven-year average. The five-year average was preferred because extreme fluctuations in the panic year upset the normal seasonal fluctuations. In computing the Pearsonian coefficient the deviations were of course taken from the actual average for the entire seven-year period.

TABLE B—INDEX NUMBERS OF THE SERIES IN THE AMERICAN INDUSTRIAL GROUP

	Commodity Prices	Production of Pig Iron	Imports	R. R. Gross Earnings	Unemploy- ment in U. S.	Immigration	Exports
1902	January.....	91.5	83.6	79.3	131.7	59.5	82.5
	February.....	84.0	73.0	76.2	135.0	75.1	77.2
	March.....	84.1	82.1	74.7	129.3	79.7	79.1
	April.....	84.5	79.7	78.7	127.6	85.0	85.7
	May.....	87.7	82.3	80.2	134.4	88.6	89.0
	June.....	87.9	80.9	78.7	130.0	79.1	80.4
	July.....	91.0	87.9	82.3	124.0	77.1	86.6
	August.....	90.4	82.8	80.6	131.0	72.3	87.3
	September.....	85.7	92.6	81.2	127.2	78.2	92.8
	October.....	84.5	87.3	82.9	103.3	79.5	87.0
	November.....	88.5	86.6	81.3	100.7	76.5	75.5
	December.....	93.0	93.4	83.3	98.1	84.6	82.6
1903	January.....	94.4	89.9	91.8	94.1	81.4	85.7
	February.....	93.1	88.3	87.8	98.3	96.7	95.5
	March.....	92.5	93.8	90.3	89.2	94.4	98.0
	April.....	93.5	92.0	93.9	75.6	112.2	86.1
	May.....	97.8	86.0	90.8	83.5	113.8	95.6
	June.....	97.7	90.7	89.7	89.8	103.4	85.7
	July.....	95.3	91.3	93.5	93.1	102.1	89.6
	August.....	95.7	86.1	90.0	95.7	102.0	82.2
	September.....	95.5	86.3	89.3	95.5	105.2	84.6
	October.....	96.3	81.8	89.2	91.8	102.1	96.7
	November.....	95.4	78.1	87.2	75.5	94.4	96.6
	December.....	94.6	77.0	86.2	66.9	74.6	97.5

1904	January.....	97.5	59.1	87.2	87.8	109.1	73.3	90.8
	February.....	98.8	80.6	95.2	94.5	81.8	69.4	90.3
	March.....	98.6	84.1	89.1	91.5	102.5	80.6	89.0
	April.....	97.6	90.4	87.7	91.5	104.0	81.2	86.1
	May.....	97.6	87.3	87.8	89.4	106.6	84.0	78.2
	June.....	96.6	78.6	89.8	90.4	107.6	79.0	84.0
	July.....	94.5	68.2	79.0	86.5	133.0	83.1	84.8
	August.....	95.9	70.4	92.0	88.9	136.0	94.9	84.8
	September.....	95.9	80.1	88.7	92.1	111.3	97.7	102.8
	October.....	96.5	80.9	92.6	89.7	109.0	94.2	98.0
	November.....	97.2	89.6	96.5	93.6	116.0	98.5	95.3
	December.....	97.2	100.9	95.6	93.0	120.3	105.3	81.0
	January.....	98.8	114.3	103.8	93.8	101.5	144.5	79.0
	February.....	98.7	106.8	110.2	93.8	114.6	137.1	81.3
	March.....	98.7	112.5	107.7	99.7	111.5	131.8	101.5
	April.....	98.0	115.8	99.9	98.6	94.5	121.9	100.8
	May.....	98.0	111.6	100.8	98.7	97.4	105.5	107.6
	June.....	98.1	109.1	100.1	100.6	107.6	117.6	109.2
	July.....	98.3	107.4	94.0	97.9	93.1	115.5	105.1
	August.....	100.2	111.2	100.6	98.8	90.7	100.7	108.1
	September.....	101.8	112.3	107.7	100.9	84.9	106.0	104.0
	October.....	100.2	114.6	107.3	99.7	68.8	108.5	93.1
	November.....	99.6	121.5	99.6	103.6	65.5	85.1	102.6
	December.....	100.3	127.8	100.0	104.2	66.9	102.8	111.4
1905	January.....	98.8	114.3	103.8	93.8	101.5	144.5	79.0
	February.....	98.7	106.8	110.2	93.8	114.6	137.1	81.3
	March.....	98.7	112.5	107.7	99.7	111.5	131.8	101.5
	April.....	98.0	115.8	99.9	98.6	94.5	121.9	100.8
	May.....	98.0	111.6	100.8	98.7	97.4	105.5	107.6
	June.....	98.1	109.1	100.1	100.6	107.6	117.6	109.2
	July.....	98.3	107.4	94.0	97.9	93.1	115.5	105.1
	August.....	100.2	111.2	100.6	98.8	90.7	100.7	108.1
	September.....	101.8	112.3	107.7	100.9	84.9	106.0	104.0
	October.....	100.2	114.6	107.3	99.7	68.8	108.5	93.1
	November.....	99.6	121.5	99.6	103.6	65.5	85.1	102.6
	December.....	100.3	127.8	100.0	104.2	66.9	102.8	111.4

TABLE B—Continued

	Commodity Prices	Production of Pig Iron	Imports	R. R. Gross Earnings	Unemploy- ment in U. S.	Immigration	Exports
1906							
January.....	101.7	132.8	112.3	115.0	71.6	131.1	109.1
February.....	100.6	127.3	111.4	116.7	73.7	140.2	107.8
March.....	100.5	126.1	110.8	112.1	53.5	137.0	107.9
April.....	101.5	120.4	112.8	103.4	52.0	133.7	113.1
May.....	102.0	119.1	114.1	100.8	51.0	124.9	113.5
June.....	103.2	120.2	111.3	110.6	58.3	125.5	112.7
July.....	102.8	124.0	113.9	111.3	62.1	128.0	108.9
August.....	103.0	116.1	110.9	110.5	50.3	129.5	119.2
September.....	103.9	116.7	108.2	107.9	53.0	128.1	106.0
October.....	104.2	122.6	118.0	111.0	57.4	125.0	113.0
November.....	106.1	132.2	121.2	110.9	50.3	131.2	111.0
December.....	107.5	139.7	133.0	114.7	44.6	143.6	106.2
1907							
January.....	108.9	141.4	133.5	124.0	37.7	139.8	121.0
February.....	109.8	136.8	131.5	124.2	41.0	134.0	121.2
March.....	111.3	129.3	129.9	124.2	44.6	143.2	119.9
April.....	109.9	128.3	136.1	127.9	47.3	129.1	123.5
May.....	109.9	130.1	137.6	130.1	46.3	153.0	117.1
June.....	111.5	135.9	124.5	126.0	44.9	162.0	124.1
July.....	112.3	139.0	138.3	128.4	44.3	147.2	125.3
August.....	110.3	135.4	132.0	124.2	50.3	156.8	117.0
September.....	108.5	129.2	112.3	119.0	53.0	132.5	103.5
October.....	107.9	130.3	111.8	119.7	97.5	139.5	108.7
November.....	106.0	110.3	112.5	114.0	131.0	162.9	121.1
December.....	102.9	77.2	91.3	109.0	160.5	111.9	115.5





TABLE C—INDEX NUMBERS OF SERIES IN THE AMERICAN BANKING GROUP

		Cash held by N. Y. Banks	Deposits of N. Y. Banks	Loans of N. Y. Banks	Call Loan Rates (%)	Commer- cial Paper Rates
1902	Jan.....	93.2	92.9	86.9	108.1	97.1
	Feb.....	95.4	94.5	88.3	100.9	83.5
	March....	92.8	94.6	89.4	101.0	89.9
	April....	87.0	90.5	86.7	143.4	97.2
	May.....	85.6	88.0	83.9	175.0	100.3
	June.....	86.1	87.7	84.3	121.3	100.8
	July.....	84.6	86.7	85.5	149.7	98.9
	Aug.....	82.1	87.4	85.6	168.8	98.0
	Sept.....	78.1	82.6	83.3	437.5	106.6
	Oct.....	79.8	81.6	81.9	228.6	105.6
	Nov.....	89.6	83.3	81.8	113.9	102.3
	Dec.....	78.3	84.2	84.1	132.2	102.1
1903	Jan.....	91.3	89.2	88.6	136.2	97.1
	Feb.....	88.9	89.7	90.4	122.1	98.3
	March....	84.0	87.2	89.2	154.0	113.5
	April....	80.7	83.9	87.1	117.8	106.9
	May.....	81.6	84.8	87.8	76.7	110.9
	June.....	80.4	82.9	86.4	130.8	116.7
	July.....	79.8	82.1	85.7	106.3	119.8
	Aug.....	82.5	82.0	85.0	90.6	122.4
	Sept.....	83.8	83.7	86.1	94.0	115.5
	Oct.....	85.3	83.4	85.6	80.5	105.6
	Nov.....	81.8	80.5	83.3	121.0	106.7
	Dec.....	86.7	82.1	84.5	106.9	106.4
1904	Jan.....	96.4	94.2	94.4	55.5	92.5
	Feb.....	100.3	96.6	95.8	76.7	98.3
	March....	105.2	99.4	97.0	44.9	92.1
	April....	107.5	104.0	100.3	38.8	82.6
	May.....	103.7	103.5	101.1	48.8	87.1
	June.....	109.1	103.6	99.7	48.3	84.8
	July.....	114.6	107.6	102.1	43.8	78.1
	Aug.....	118.6	108.4	101.9	40.2	78.3
	Sept.....	117.5	111.9	105.8	62.0	80.0
	Oct.....	112.8	112.4	107.3	60.8	83.6
	Nov.....	112.7	110.2	104.9	65.3	74.6
	Dec.....	112.4	107.1	97.3	60.8	74.4
1905	Jan.....	114.8	113.7	108.8	53.3	76.3
	Feb.....	110.7	112.5	108.9	92.9	78.6
	March....	109.1	112.4	109.2	82.1	80.4
	April....	105.1	107.9	106.0	91.3	82.6
	May.....	104.7	107.0	105.3	76.1	84.4
	June.....	101.3	104.9	104.5	106.8	84.8
	July.....	104.2	107.1	105.1	98.4	85.9
	Aug.....	101.7	106.7	106.3	91.5	85.7
	Sept.....	97.7	101.9	102.7	144.2	84.4
	Oct.....	95.6	97.0	97.8	159.1	88.0
	Nov.....	96.5	96.2	96.7	179.6	96.1
	Dec.....	97.2	95.6	96.6	320.8	102.1

TABLE C—Continued

		Cash held by N. Y. Banks	Deposits of N. Y. Banks	Loans of N. Y. Banks	Call Loan Rates (7)	Commer- cial Paper Rates
1906	Jan.....	98.8	100.7	102.0	202.5	97.1
	Feb.....	96.1	99.2	101.5	196.5	108.1
	March...	94.3	96.6	99.7	125.3	101.7
	April...	91.7	94.7	98.8	267.1	106.9
	May.....	92.2	95.1	98.9	130.5	110.9
	June.....	93.4	97.0	100.5	138.9	111.3
	July.....	92.6	95.1	98.6	126.2	114.5
	Aug.....	90.4	95.4	99.6	98.2	117.5
	Sept.....	89.9	94.1	98.0	380.0	115.5
	Oct.....	95.7	97.6	100.3	158.2	110.0
	Nov.....	94.5	94.5	97.8	175.0	106.7
	Dec.....	95.4	94.7	99.1	272.2	106.4
1907	Jan.....	100.0	102.3	106.3	145.7	115.5
	Feb.....	96.4	99.9	105.1	186.0	118.0
	March...	94.6	97.1	102.9	163.9	113.5
	April...	101.3	102.4	106.3	66.0	116.7
	May.....	100.2	103.0	107.5	72.4	116.1
	June.....	98.2	103.0	108.0	133.8	116.7
	July.....	93.3	98.6	104.6	197.3	125.0
	Aug.....	90.8	95.9	102.2	136.6	122.4
	Sept.....	93.1	96.4	102.1	162.0	120.0
	Oct.....	92.9	96.1	102.0	628.5	127.7
	Nov.....	82.0	101.5	110.9	286.0	136.6
	Dec.....	89.9	102.8	111.9	284.0	136.2
1908	Jan.....	105.5	107.2	112.8	112.5	124.8
	Feb.....	113.1	107.8	109.9	76.7	115.5
	March...	120.0	112.7	112.7	47.5	108.8
	April...	126.6	116.7	114.6	48.3	106.9
	May.....	131.4	118.6	114.7	52.2	89.7
	June.....	132.0	120.8	116.4	65.0	84.8
	July.....	130.5	122.1	118.2	52.0	78.1
	Aug.....	134.0	124.0	119.2	47.3	75.7
	Sept.....	140.0	129.4	122.5	54.7	77.7
	Oct.....	137.6	131.7	125.0	43.2	79.2
	Nov.....	143.0	133.0	124.8	27.5	76.9
	Dec.....	140.1	133.4	126.2	56.3	72.3
Base		(000)	(000,000)	(000,000)		
	Jan.....	268,200,	1,001,	999,	4.23	5.41
	Feb.....	281,900,	1,062,	1,040,	2.36	5.08
	March...	274,400,	1,046,	1,032,	3.90	5.28
	April...	281,700,	1,057,	1,037,	3.56	5.14
	May.....	287,700,	1,078,	1,050,	3.18	4.73
	June.....	289,800,	1,079,	1,052,	2.34	4.71
	July.....	296,300,	1,094,	1,063,	2.35	4.80
	Aug.....	302,900,	1,113,	1,076,	2.24	5.10
	Sept.....	289,800,	1,089,	1,072,	2.47	5.62
	Oct.....	281,400,	1,070,	1,063,	3.34	5.67
	Nov.....	267,300,	1,059,	1,068,	4.28	5.85
	Dec.....	257,300,	1,035,	1,045,	5.14	5.87

<sup>7</sup> In the case of Call Loan Rates a three-year average was used for the base in computing the index numbers. The results of course have practically no significance so far as the elimination of seasonal fluctuations is concerned. The deviations from the actual average for the seven year period were used in computing the correlation coefficient.

TABLE D—RELATIVES OF SERIES APPEARING IN  
CHARTS 1, 2, 3 AND 6

	Ten stocks	Invest- ment Com- posite	Whole- sale Prices	Indus- trial Com- posite	Com. Paper Rate	Cash Re- serves	Bank- ing Com- posite
1902							
January.....	.00	.10	—1.30	—1.10	— .19	— .44	— .72
February.....	+ .08	+ .10	—1.30	—1.24	—1.06	— .31	— .62
March.....	+ .23	+ .02	—1.09	—1.07	— .63	— .44	— .61
April.....	+ .46	+ .75	—1.09	—1.01	— .19	— .82	— .94
May.....	+ .69	+ .40	— .65	— .82	.00	— .88	—1.09
June.....	+ .69	+ .24	— .65	— .91	+ .06	— .88	—1.09
July.....	+ .77	+ .72	— .65	— .76	— .06	— .94	—1.11
August.....	+ .77	+ .49	— .65	— .88	— .12	—1.13	—1.14
September.....	+ .77	+ .69	— .65	— .75	+ .44	—1.38	—1.42
October.....	+ .54	+ .38	— .65	— .81	+ .38	—1.26	—1.44
November.....	+ .23	+ .23	— .43	— .78	+ .12	— .63	—1.20
December....	+ .23	+ .05	— .43	— .57	+ .12	—1.38	—1.36
1903							
January.....	+ .31	+ .16	— .22	— .46	— .19	— .57	— .81
February.....	+ .31	+ .15	— .22	— .45	— .12	— .69	— .79
March.....	+ .08	+ .04	— .22	— .37	+ .88	—1.01	—1.01
April.....	— .15	— .27	— .22	— .22	+ .44	—1.20	—1.21
May.....	— .23	— .15	— .43	— .33	+ .69	—1.13	—1.13
June.....	— .38	+ .09	— .43	— .31	+1.06	—1.26	—1.29
July.....	— .62	— .51	— .43	— .33	+1.25	—1.26	—1.32
August.....	— .77	— .64	— .87	— .53	+1.37	—1.13	—1.30
September.....	— .85	— .75	—1.09	— .60	+1.00	—1.01	—1.18
October.....	— .92	— .94	— .87	— .73	+ .38	— .94	—1.18
November.....	— .85	— .82	—1.09	—1.05	+ .44	—1.13	—1.42
December....	— .77	— .75	—1.09	—1.28	+ .38	— .82	—1.23
1904							
January.....	— .77	— .79	— .65	—1.00	— .44	— .25	— .42
February.....	— .92	— .89	— .22	— .55	— .12	.00	— .20
March.....	— .85	— .87	— .22	— .57	— .50	+ .31	— .01
April.....	— .77	— .95	— .43	— .57	—1.06	+ .44	+ .25
May.....	— .77	— .96	— .43	— .61	— .81	+ .25	+ .22
June.....	— .69	— .83	— .65	— .72	— .94	+ .57	+ .29
July.....	— .54	— .43	—1.30	—1.09	—1.37	+ .94	+ .58
August.....	— .62	— .55	— .87	— .73	—1.37	+1.20	+ .67
September.....	— .46	— .27	— .87	— .62	—1.25	+1.13	+ .87
October.....	.00	+ .57	— .87	— .61	—1.00	+ .82	+ .80
November.....	+ .23	+ .45	— .65	— .37	—1.56	+ .82	+ .69
December....	+ .46	+ .46	— .65	— .24	—1.62	+ .75	+ .35
1905							
January.....	+ .46	+ .33	— .22	+ .32	—1.50	+ .94	+ .95
February.....	+ .85	+ .85	— .22	+ .29	—1.31	+ .69	+ .84
March.....	+1.15	+ .98	— .22	+ .37	—1.25	+ .57	+ .78
April.....	+1.15	+ .98	— .43	+ .18	—1.06	+ .31	+ .49
May.....	+ .92	+ .63	— .43	+ .06	—1.00	+ .31	+ .44
June.....	+1.00	+ .52	— .43	+ .12	— .94	+ .06	+ .30

TABLE D—Continued

	Ten stocks	Invest- ment Com- posite	Whole- sale Prices	Indus- trial Com- posite	Com. Paper Rate	Cash Re- serves	Bank- ing Com- posite
<b>1905</b>							
July.....	+1.15	+ .57	— .43	— .03	— .88	+ .25	+ .42
August.....	+1.38	+ .82	.00	+ .10	— .88	+ .13	+ .41
September....	+1.38	+ .61	+ .43	+ .35	—1.00	— .13	+ .10
October.....	+1.54	+ .79	.00	+ .28	— .75	— .25	— .22
November.....	+1.54	+1.00	.00	+ .16	— .25	.25	— .28
December....	+1.46	+1.11	.00	+ .33	+ .12	— .18	— .26
<b>1906</b>							
January.....	+1.38	+1.40	+ .43	+ .94	— .19	— .06	+ .07
February.....	+1.46	+1.11	+ .22	+ .91	+ .50	— .25	— .05
March.....	+1.38	+ .75	+ .22	+ .81	+ .12	— .38	— .21
April.....	+1.23	+ .92	+ .43	+ .68	+ .44	— .50	— .33
May.....	+1.15	+ .95	+ .43	+ .73	+ .69	— .50	— .33
June.....	+1.38	+1.31	+ .65	+ .77	+ .69	— .44	— .26
July.....	+1.08	+ .75	+ .65	+ .85	+ .88	— .44	— .31
August.....	+1.31	+1.19	+ .65	+ .75	+1.06	— .63	— .34
September....	+1.39	+1.20	+ .87	+ .72	+ .94	— .63	— .43
October.....	+1.46	+ .92	+ .87	+ .92	+ .63	— .25	— .14
November.....	+1.38	+ .72	+1.30	+1.16	+ .44	— .38	— .35
December....	+ .85	+ .56	+1.74	+1.61	+ .38	— .31	— .27
<b>1907</b>							
January.....	+ .31	+ .39	+1.96	+1.78	+1.00	.00	+ .23
February.....	+ .08	+ .33	+2.17	+1.73	+1.12	— .25	+ .07
March.....	— .46	+ .45	+2.39	+1.73	+ .88	— .31	— .09
April.....	— .54	— .09	+2.17	+1.72	+1.06	+ .06	+ .25
May.....	— .69	— .17	+2.17	+1.94	+1.00	.00	+ .32
June.....	— .92	— .58	+2.61	+1.92	+1.06	— .13	+ .28
July.....	— .77	— .33	+2.61	+2.04	+1.56	— .44	— .02
August.....	—1.23	— .59	+2.17	+1.85	+1.37	— .57	— .24
September....	—1.31	— .85	+1.96	+1.28	+1.25	— .44	— .19
October.....	—1.62	—2.70	+1.74	+1.30	+1.75	— .44	— .19
November.....	—2.08	—1.61	+1.30	+1.10	+2.31	—1.13	+ .01
December....	—1.92	—1.82	+ .65	+ .01	+2.25	— .63	+ .23
<b>1908</b>							
January.....	—1.69	—1.42	+ .22	— .43	+1.56	+ .38	+ .70
February.....	—1.85	—1.44	— .22	— .63	+1.00	+ .82	+ .78
March.....	—1.54	—1.02	— .65	— .86	+ .56	+1.26	+1.15
April.....	—1.46	—1.15	— .22	— .74	+ .44	+1.70	+1.47
May.....	—1.15	— .36	— .43	— .91	— .63	+1.95	+1.60
June.....	—1.08	— .64	— .87	— .80	— .94	+2.01	+1.71
July.....	—1.00	— .54	— .65	— .76	—1.37	+1.95	+1.77
August.....	— .92	— .61	— .43	— .54	—1.50	+2.14	+1.92
September....	—1.00	— .52	— .65	— .38	—1.37	+2.52	+2.30
October.....	— .92	— .49	— .43	— .35	—1.31	+2.33	+2.37
November.....	— .46	+ .17	— .43	— .22	—1.44	+2.71	+2.53
December....	— .31	+ .16	— .22	+ .17	—1.75	+2.52	+2.49

## CHAPTER III

### COMPARISON OF MONTHLY DATA FOR GREAT BRITAIN, GERMANY, AND THE UNITED STATES

In this chapter an analysis will be made of various statistical series for Great Britain and Germany, and a comparison will be made between American, British, and German data. This chapter has two purposes in mind: first, to ascertain the chronological relation of the various economic series of Great Britain and Germany as was done for the United States; and second, to determine the chronological relation of the different groups in the three countries. We shall therefore first attempt to classify the groupings within the foreign countries, and then determine the relation of the group of one country to similar groups in the other two countries.

#### A. BRITISH AND GERMAN DATA

The following monthly data for Great Britain were examined:<sup>1</sup>

1. Thirteen Railroad Preferred Stocks—British.
2. Eight Corporation Stocks—U. K.
3. Fourteen Railroad Debentures—British.
4. Nineteen Ordinary Railroad Stocks—British.

<sup>1</sup> The data for the five stock and bond price series were obtained from the *Banker's Magazine*, London. In a few cases interpolation had to be resorted to. In every case the data for 1907 and 1908 had to be adjusted to the preceding years because of changes that were made at the close of 1906 in the number of stocks or bonds quoted in each series. Both the old and the new figures were given for December of 1906. The proportion existing between the old and the new figures in that month was used as the medium through which the data for the succeeding two years were adjusted. For example, the old figure for December, 1906, for one of the series was 247.2 while the new figure for the same month was 303.7. The data for 1907 and 1908 were then adjusted to the preceding data by multiplying the figure for each month of these two years by  $2472/3037$ , or .814.

The data for the 2½ per cent consol were obtained from *Volkswirtschaftliche Chronik*, 1910, p. 362.

The quotations for the reserve of note and coin, bullion, public deposits, other deposits—all for the Bank of England—are for the first week of each month as given by the *Financial Review*.

The quotations for the open market rate are for the first week of the month as given by the *Financial Review*.

The quotations for the Bank of England bank rate are from the *Statistical Abstract for the U. K.*, 1897-1911. They are the average minimum rates of discount charged by the Bank of England in each month.

Exports and imports of merchandise and traffic receipts were taken from the *Labour Gazette*, 1902-1909.



5. Total Values of Stocks and Bonds.
6. Consol—2¾ per cent.
7. Reserve of Note and Coin—Bank of England.
8. Bullion—Bank of England.
9. Bank Rate—Bank of England.
10. Open Market Rate.
11. Public Deposits—Bank of England.
12. Other Deposits—Bank of England.
13. Exports—U. K.
14. Imports—U. K.
15. Traffic Receipts—(20 principal railroads of U. K.)

For Germany the following data were analyzed:<sup>2</sup>

1. Transactions on the Bourse.
2. Twelve Stocks.
3. Bank Clearings.
4. Note Circulation, Reichsbank.
5. Coin and Bullion—Reichsbank.
6. Discounts and Advances, Reichsbank.
7. Deposits, Reichsbank.
8. Bank Rate, Reichsbank.
9. Open Market Rate.
10. Prussian Konsol 3½ per cent.
11. Production of Pig Iron.
12. Railroad Gross Earnings.
13. Wholesale Prices.
14. Prices of Producers' Goods.
15. Prices of Consumers' Goods.

<sup>2</sup> For Germany "Umsatzsteuer" indicating the volume of transactions on the Bourse, bank clearings, the 3½ per cent Prussian Konsol, production of pig iron and railroad gross earnings, were obtained from *Volkswirtschaftliche Chronik*, *passim*, 1902-1909.

The quotations for the Berlin bank and open market rates are for the first day of the month as given by the *Financial Review*.

The coin and bullion, discounts and advances, deposits, and notes of the Reichsbank are taken from the *London Economist*.

The average relative prices of 12 stocks were computed by the writer from data obtained from the *Volkswirtschaftliche Chronik*, Table 6, 1902-1909. The 12 stocks used are as follows: Gelsenkirchen Bergw. Akt.; Harpener Bergb. Akt.; Bochumer Gussstahl Akt.; Dortmunder-Union Vorz. Akt.; Konigs. u. Laurahütte, Akt.; Stettiner Vulkan B. Akt.; Berl. Maschinenbau; Allgem. Elektr. Ges. Akt.; Siemens & Halske, Akt.; Hamb. Amer. Packetfahrt, Akt.; Nordd. Lloyd, Akt.; Deutsch Bank Akt. An average was computed from the average monthly prices of each of the 12 stocks. These figures were reduced to the average monthly bases used in this study.

The relative prices of producers' goods were computed by the writer from data obtained from the *Vierteljahrsheften*, 1902-1909. Sixteen commodities are included in the series. See notation (15) at the close of Chapter IV for a full description of the commodities and the method of computation.

The prices of consumers' goods were also obtained from the *Vierteljahrsheften*. Fourteen commodities are included. See notation (15) at the close of Chapter IV for description and explanation of method.

The index numbers of wholesale prices were computed by summing the price summations of the consumers' and producers' goods. Index numbers were then constructed from these summations by using the monthly averages as bases.

The actual data in each case were reduced to relative numbers by the method already described. Groupings were selected by the same tests of correlation applied in the last chapter.

## B. THE BRITISH AND GERMAN INVESTMENT GROUPS

Of the five series of British stock prices listed above, two were selected, the average prices of nineteen ordinary railroad stocks, and the total values of stocks and bonds. The relative numbers for these two series are given in Table E, Appendix to Chapter III.

The nineteen ordinary railroad stock series was correlated with the stocks and bonds series. The results are given below:

Railroad stock series precedes.....	1 month	+.897
"                      "                      .....	0 "	+.943
"                      lags behind.....	1 "	+.865

As would be expected very high concurrent correlation obtains between the two series. The two series were combined to form a British Investment Composite by the method described in the last chapter.

Of the German series the two that belong to the Investment Group are the average prices of 12 stocks, and transactions on the Bourse. The other series which naturally would belong to this group is bank clearings, but a chart of the index numbers does not reveal any cyclical fluctuations at all, but only a rather steady secular growth. This series, because of the relatively small use of checks or similar credit instruments in Germany, is at all events of comparatively little significance. The index numbers for the 12 stocks and transactions on the Bourse are given in Table F.

The coefficients of correlation between the average prices of the twelve stocks and transactions on the Bourse are given below:

Transactions on Bourse precedes.....	2 months	+.643
"                      "                      .....	1 month	+.659
"                      "                      .....	0 "	+.651
"                      lags behind.....	1 "	+.610

It appears that the stock series lags one month behind the transactions on the Bourse. The two series being substantially concurrent were then averaged together by the method previously described to form the German Investment Group.

### C. COMPARISON OF THE THREE INVESTMENT GROUPS

The next task is to ascertain the chronological relation of the investment composites of the three countries. The relatives for the three groups are given in Table K. The two European composites were plotted with the American composite. The curves appear in Chart 7. From this chart it is evident that there is very close correlation between the American and British composites. For the two years 1902 and 1903 there appears to be little or no similarity between the German composite and the other two curves. For the rest of the period the correspondence is quite close. The secular trends of the three curves have been eliminated by the method of moments.

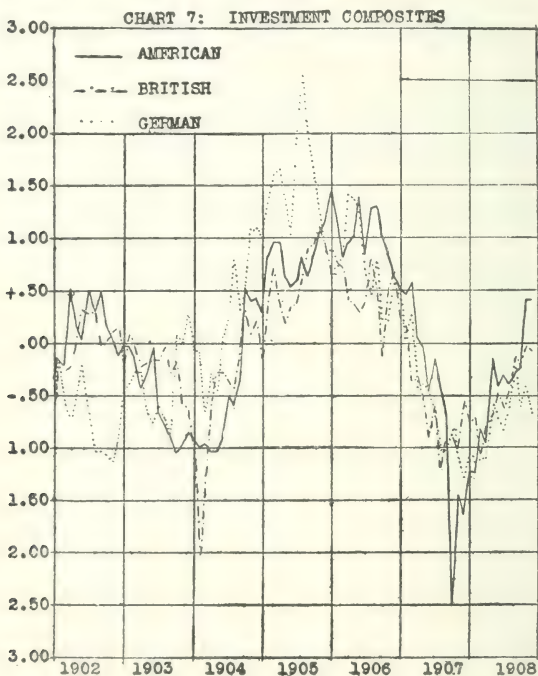
### D. COMPARISON OF BONDS OF THE THREE COUNTRIES

At this point it may be of interest to add a comparison of British and German consols and some American security of equal grade. Mitchell<sup>1</sup> shows clearly that we have no government security which can be fairly compared with European government securities, and he used in place of United States securities a railroad bond which meets the requirements fairly well, viz., the bonds of the West Shore Railroad. Chart 8 shows the comparison of the relative prices of the English  $2\frac{3}{4}$  per cent consol, the Prussian  $3\frac{1}{2}$  per cent consol and the bonds of the West Shore Railroad. It will be noticed that the correspondence is closest between the British and American bonds.

A difference may here be noted between the long run trend of bonds as compared to the long run trend of stocks and commodity prices. The short-time, cyclical fluctuations of bonds

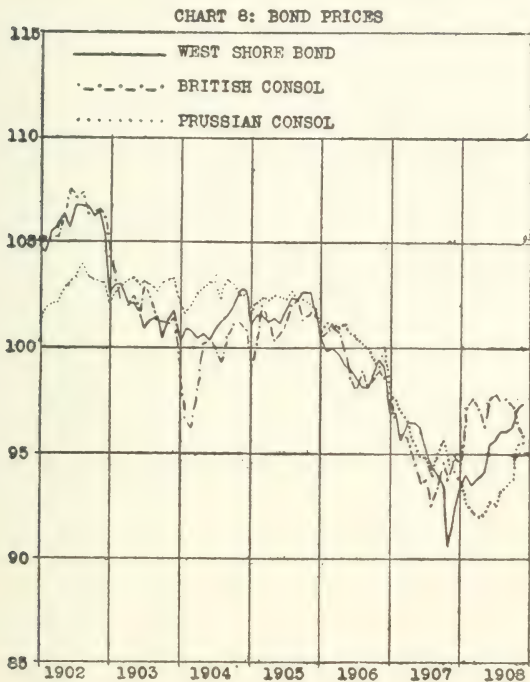
<sup>1</sup> Mitchell, *Business Cycles*, p. 164.

correspond with the fluctuations of stocks and commodity prices, but the long-run trend is in the opposite direction. Both the principal and the interest of bonds are fixed, and are constantly depreciating in value because of diminishing purchas-



ing power due to a depreciating money standard. On the other hand stocks participate in the larger earnings and increased value of business assets which normally result from rising prices. Again the current rate of interest on long-time investments tends to rise with rising prices, and therefore the fixed interest rate of bonds is capitalized at higher and higher rates, and bond values are correspondingly reduced. Hence, while

the short-time fluctuations of bonds correspond with the movements of the business cycle, the long-run tendency is the opposite of the movement of stocks and commodity prices.



#### E. THE BRITISH AND GERMAN BAROMETERS

Exports, imports, and traffic receipts are the British series which fall in the industrial group. Traffic receipts however fail to register any cyclical fluctuations. The receipts follow a level course until the close of 1905 when a sudden drop occurs after which the receipts continue relatively constant again.

Only two series, therefore, remain for the industrial group, imports and exports. The relative numbers are given in Table G. The coefficients of correlation between the two series are as follows:

Imports precedes.....	1 month	+.816
“ “ .....	0 “	+.882
“ lags behind.....	1 “	+.759

High concurrent correlation is evident. In the case of the United States, exports were found to lag considerably behind the rest of the industrial group. In Great Britain, because of the extraordinary importance of her foreign trade, exports as well as imports constitute a sensitive indicator of prosperity and depression.

Of the monthly data available for Germany the analysis of groupings in the United States would indicate that production of pig iron, railroad gross earnings and wholesale prices should be classed together in the industrial group. The prices of consumers' goods and producers' goods might also be classed here, but as both are represented in wholesale prices the analysis of these two groups, as in the case of the United States, may be deferred until the following chapter where the theory of prosperity cycles will be discussed. The relative

TABLE VII

#### COEFFICIENTS OF CORRELATION—GERMAN INDUSTRIAL GROUP

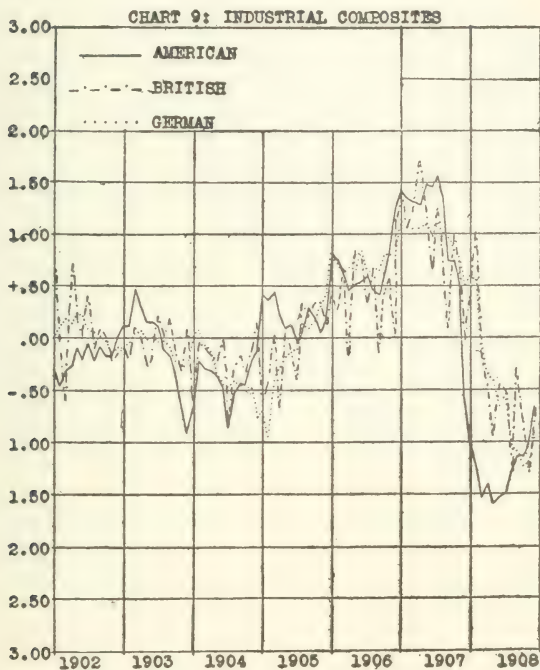
Series correlated with	Each series precedes (—) or lags behind (+) wholesale prices by:				
	—1 mo.	0 mo.	+1 mo.	+2 mo.	+3 mo.
Wholesale Prices:					
Pig Iron Production:	+.917	+.922	+.926	+.920	
Railroad Receipts:	+.784	+.805	+.837	+.844	+.845

numbers for the remaining series are given in Table H. In Table VII are given the coefficients of correlation between Wholesale Prices and the other series in the group.<sup>4</sup> Pig iron

<sup>4</sup> A slight error is involved in the coefficients given in Table VII owing to the fact that the deviations from the average of a seven-year cycle are correlated with deviations from the averages of six and five-year cycles.



production is substantially synchronous with prices, lagging as it does only one month behind. Railroad receipts lags somewhat more behind. Hence wholesale prices and pig iron production were the only series included in the German industrial composite. These two series were combined by the usual method.



#### F. COMPARISON OF THE THREE BAROMETERS

We turn now to the chronological relation between the industrial barometers of the three countries under consideration. The relatives for the American, British and German Industrial composites appear in Table K. The three composites

are plotted together in Chart 9. The secular trends have been eliminated by the method of moments. From this chart it is evident that the cyclical movements are quite closely concurrent.

#### G. THE BRITISH AND GERMAN BANKING GROUPS

In the Banking Group we find among the available British data the following: reserve of note and coin of the Bank of England, bank rate of the Bank of England, open market rate, bullion in the Bank of England, public deposits of the Bank of England, and "other deposits" of the Bank of England. Of these it was found best to make use of only the first three named. Bullion in the Bank of England was found to be almost exactly identical in its changes to the reserve of note and coin. Hence only one was used, and the reserve of note and coin was selected. "Other deposits" showed no cyclical movements, and public deposits proved to be very irregular. Both were ruled out. The index numbers for the other series are given in Table I, Appendix.

The coefficients of correlation between the bank rate, open market rate, and the reserve of note and coin were computed. The coefficients are given in Table VIII.

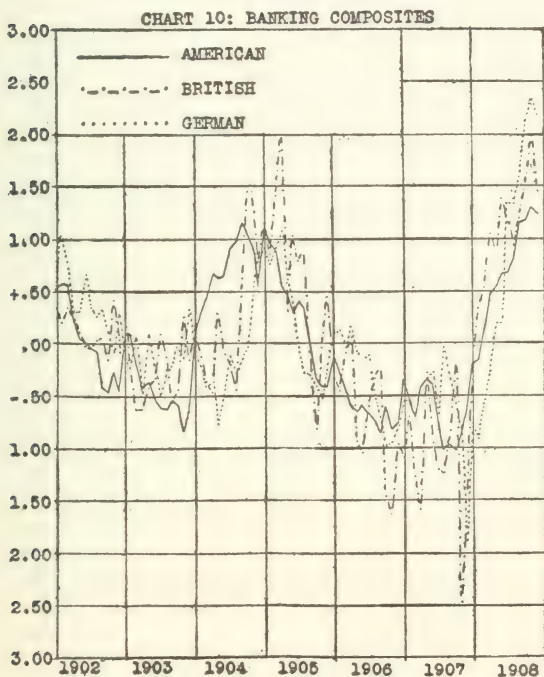
TABLE VIII

#### COEFFICIENTS OF CORRELATION—BRITISH BANKING GROUP

Series correlated with Reserve of Note and Coin.....	Each series precedes (—) or lags behind (+) Reserves by:		
	—1 mo.	0 mo.	+1 mo.
Bank Rate.....	—254	—538	—519
Open Market Rate.....	—236	—501	—474

Concurrent inverse correlation obtains in each case. These three series were averaged together to form the British Banking composite by the method used above. The relatives thus derived appear in Table K. In constructing this composite the bank and open market rates were inverted.

Of the available German data the following fall in the Banking Group: note circulation, coin and bullion in the Reichsbank, discounts and advances of the Reichsbank, deposits of the Reichsbank, bank rate, open market rate. Note circulation shows a steady secular growth, but no cyclical movements of



any note. It was therefore omitted. The index numbers for the remaining five series are given in Table J.

Coin and bullion in the Reichsbank was correlated with the other series in the group. The coefficients of correlation appear in Table IX.

TABLE IX  
COEFFICIENTS OF CORRELATION—GERMAN BANKING  
GROUP

Series correlated with Coin and Bullion in Reichsbank:	Each series precedes (—) or lags behind (+) coin and bullion by:						
	—1 mo.	0 mo.	+1 mo.	+2 mo.	+3 mo.	+4 mo.	+5 mo.
Deposits:	+.426	+.502	+.389				
Loans:		— .523	— .588	— .584			
Open Market Rates:		— .603	— .671	— .711	— .732	— .676	
Bank Rate:		— .504	— .636	— .699	— .756	— .769	— .739

From this it appears that deposits and loans are substantially synchronous with coin and bullion. In the case of deposits the correlation is perfectly synchronous, while in the case of loans there is a lag of one month. The open market rate and bank rate lag three and four months behind, respectively.

Coin and bullion, deposits and loans (inverted) were therefore combined to form the German banking composite.

#### H. COMPARISON OF THE THREE BANKING GROUPS

The three banking composites are compared in Chart 10. The relatives are given in Table K. It appears that the three groups are fairly concurrent, though not entirely so. On the whole the American series seems to precede the European series slightly.

#### I. COMPARISON OF THE AMPLITUDES OF FLUCTUATION OF DIFFERENT SERIES

It will be of interest to compare the three countries as to the amplitude of the fluctuations of the different series. Table X is therefore appended showing the standard deviations of the different series. It is of course clear that the larger the standard deviation the greater is the fluctuation of the series.

TABLE X

STANDARD DEVIATIONS OF SERIES IN UNITED STATES,  
GERMANY, AND GREAT BRITAIN

SERIES	UNITED STATES	GREAT BRITAIN	GERMANY
Stock Prices.....	13.0 (Ten stocks)	3.8 (Stocks & Bonds)	10.0
	16.0 (Forty common)	6.2 (Nineteen Ord.)	
Shares Traded.....	34.7		29.6
Liabilities of Busi- ness Failures.....	98.0		
Wholesale Prices...	4.6		8.5
Production of Pig Iron.....	22.4		10.8
R. R. Gross Earnings	13.9		
Immigration .....	32.7		
Imports .....	15.7	7.8	
Exports .....		15.4	
Cash Reserves.....	9.3	7.2	9.3
Deposits .....	12.6		9.7
Loans .....	11.1		13.4
Money Rates.....	16.0 (Com. Paper)	22.6 (Bank)	23.5 (Bank Rate)
	94.3 (Call Loan)	27.5 (Open Market)	25.3 (Open Market)

## APPENDIX TO CHAPTER III

TABLE E—INDEX NUMBERS OF THE SERIES IN THE  
BRITISH INVESTMENT GROUP

		Prices of Stocks and Bonds	Prices of 19 R. R. Ord. Stocks			Prices of Stocks and Bonds	Prices of 19 R. R. Ord. Stocks
1902	January...	102.3	106.4	1906	January...	102.5	102.3
	February..	103.0	108.3		February..	102.9	103.4
	March....	103.3	108.2		March....	103.0	101.7
	April.....	103.3	107.9		April.....	102.2	100.2
	May.....	103.8	109.2		May.....	101.8	99.5
	June.....	105.0	111.0		June.....	101.3	99.2
	July.....	104.7	110.0		July.....	100.7	100.1
	August....	104.7	109.6		August....	102.4	103.0
	September	104.1	106.8		September	101.2	100.7
	October...	104.1	106.9		October...	100.3	94.0
	November..	103.8	107.7		November..	101.4	99.8
	December..	103.6	107.7		December..	101.5	99.6
1903	January...	102.7	105.0	1907	January...	100.1	97.1
	February..	103.0	107.5		February..	99.6	96.4
	March....	102.9	106.4		March....	96.8	93.6
	April.....	102.3	105.3		April.....	96.6	94.0
	May.....	102.4	104.6		May.....	95.6	92.7
	June.....	102.3	104.7		June.....	94.1	91.1
	July.....	101.9	105.0		July.....	95.4	93.2
	August....	101.8	105.7		August....	92.2	90.3
	September	101.1	103.7		September	93.0	91.2
	October...	100.9	104.7		October...	92.9	91.1
	November..	100.7	100.2		November..	91.4	92.5
	December..	100.6	99.0		December..	92.5	94.7
1904	January...	98.8	97.1	1908	January...	92.8	92.3
	February..	96.2	89.0		February..	92.9	92.0
	March....	97.3	95.3		March....	93.1	89.7
	April.....	98.9	100.0		April.....	92.9	90.1
	May.....	99.9	102.8		May.....	94.1	89.6
	June.....	100.5	101.4		June.....	94.3	91.5
	July.....	100.1	100.5		July.....	94.4	89.8
	August....	99.8	100.0		August....	95.0	89.6
	September	100.6	101.7		September	95.6	91.5
	October...	102.0	105.4		October...	95.3	92.3
	November..	102.1	101.8		November..	96.5	90.8
	December..	102.2	103.3		December..	96.7	90.3
1905	January...	100.9	99.9	Base	(000)	(000)	
	February..	102.1	103.8		January...	3,019,	258,900,
	March....	103.6	105.2		February..	3,010,	252,000,
	April.....	103.1	102.2		March....	2,997,	251,900,
	May.....	102.2	101.4		April.....	3,004,	253,800,
	June.....	102.5	100.8		May.....	3,007,	253,300,
	July.....	102.6	101.2		June.....	3,000,	253,100,
	August....	103.6	101.8		July.....	2,994,	250,500,
	September	104.2	104.5		August....	2,981,	246,600,
	October...	104.2	105.4		September	2,982,	245,800,
	November..	104.0	106.7		October...	2,971,	243,700,
	December..	103.3	105.6		November..	2,973,	248,800,
				December..	2,975,	248,100,	



TABLE F—INDEX NUMBERS OF SERIES IN THE  
GERMAN INVESTMENT GROUP

		Trade on Bourse	Prices of 12 Stocks			Trade on Bourse	Prices of 12 Stocks
1902	January...	104.1	85.4	1906	January...	114.7	113.0
	February..	112.0	88.3		February..	105.9	112.8
	March.....	91.3	88.1		March.....	114.8	112.2
	April.....	86.3	85.7		April.....	147.8	113.2
	May.....	99.9	86.0		May.....	146.3	113.3
	June.....	112.1	87.8		June.....	133.8	112.5
	July.....	91.9	85.8		July.....	107.8	110.5
	August....	76.3	84.4		August....	98.3	110.6
	September..	79.2	83.2		September..	122.4	109.1
	October....	78.7	81.9		October....	93.4	108.2
	November..	76.0	82.8		November..	92.6	108.0
	December..	84.0	83.8		December..	110.6	109.0
1903	January...	102.1	87.0	1907	January...	97.5	109.9
	February..	100.0	88.9		February..	83.5	108.1
	March.....	102.0	91.4		March.....	107.6	103.8
	April.....	100.3	91.5		April.....	74.2	101.6
	May.....	81.3	90.0		May.....	78.4	100.9
	June.....	80.7	89.2		June.....	78.9	99.8
	July.....	87.0	90.1		July.....	69.9	99.0
	August....	74.7	90.7		August....	59.8	95.0
	September..	69.4	90.3		September..	58.7	96.8
	October....	118.0	93.2		October....	61.7	97.6
	November..	105.7	96.1		November..	57.5	94.6
	December..	119.2	97.4		December..	49.5	93.9
1904	January...	94.1	97.6	1908	January...	57.2	96.8
	February..	108.1	94.1		February..	49.7	96.1
	March.....	77.9	95.2		March.....	54.3	95.8
	April.....	84.9	97.0		April.....	51.8	97.2
	May.....	74.9	98.2		May.....	80.9	97.9
	June.....	102.0	99.5		June.....	78.4	96.3
	July.....	108.3	100.8		July.....	70.4	97.2
	August....	131.4	104.2		August....	76.8	98.5
	September..	103.4	104.3		September..	96.4	99.9
	October....	115.9	104.8		October....	80.8	97.7
	November..	140.9	107.3		November..	93.5	97.8
	December..	137.9	108.2		December..	78.7	97.5
1905	January...	130.2	109.8	Base	January...	(000)	(000)
	February..	140.5	112.2		January...	1,569	2,227
	March.....	151.7	113.8		February..	1,361	2,239
	April.....	154.2	114.0		March....	1,297	2,219
	May.....	138.5	113.5		April.....	1,411	2,242
	June.....	114.9	115.1		May.....	1,197	2,238
	July.....	164.8	116.9		June.....	954	2,220
	August....	182.8	117.6		July.....	1,035	2,197
	September..	170.5	116.1		August....	1,094	2,223
	October....	151.3	115.9		September..	1,329	2,255
	November..	133.9	114.2		October....	1,361	2,254
	December..	120.0	110.5		November..	1,218	2,246
					December..	1,072	2,252

TABLE G—INDEX NUMBERS OF SERIES IN THE  
BRITISH INDUSTRIAL SERIES

		Imports	Exports			Imports	Exports
1902	January...	97.3	85.7	1906	January...	103.8	108.5
	February..	90.6	79.0		February..	103.3	106.5
	March....	82.1	78.2		March....	106.9	111.7
	April.....	98.2	88.3		April.....	100.0	101.6
	May.....	93.3	80.6		May.....	110.6	111.9
	June.....	91.5	79.9		June.....	108.0	115.2
	July.....	95.6	85.9		July.....	105.2	110.3
	August....	90.1	82.2		August....	109.0	113.3
	September	93.0	83.5		September	100.2	107.0
	October...	92.2	83.7		October...	107.3	110.5
	November..	87.6	85.9		November..	108.2	114.6
	December..	90.2	85.2		December..	102.3	110.5
1903	January...	89.9	87.8	1907	January...	117.5	123.8
	February..	88.2	84.4		February..	115.1	118.9
	March....	94.2	88.5		March....	115.9	122.2
	April.....	93.1	86.9		April.....	120.9	129.3
	May.....	90.2	85.8		May.....	113.2	130.2
	June.....	93.1	83.7		June.....	107.9	124.2
	July.....	98.8	85.4		July.....	113.1	133.4
	August....	95.4	86.8		August....	110.0	126.3
	September	101.1	81.7		September	100.9	123.2
	October...	94.9	86.1		October...	113.3	127.5
	November..	94.6	80.1		November..	111.0	124.6
	December..	97.9	86.6		December..	104.8	115.1
1904	January...	89.3	85.0	1908	January...	109.3	121.4
	February..	95.9	88.6		February..	114.0	129.5
	March....	97.7	85.4		March....	104.5	115.9
	April.....	96.1	88.3		April.....	100.1	115.2
	May.....	96.4	85.8		May.....	95.3	109.7
	June.....	97.5	90.5		June.....	104.0	108.8
	July.....	88.8	81.7		July.....	101.5	111.2
	August....	94.6	89.1		August....	95.4	102.5
	September	95.9	90.9		September	106.8	111.0
	October...	97.3	84.8		October...	99.7	109.9
	November..	98.4	90.8		November..	96.9	101.3
	December..	98.9	98.8		December..	106.4	103.4
1905	January...	92.8	88.1	Base		(000)	(000)
	February..	93.1	93.6		January...	51,500.	28,360.
	March....	98.2	98.9		February..	46,010.	27,000.
	April.....	92.1	90.7		March....	49,800.	28,410.
	May.....	100.9	96.2		April.....	47,060.	26,630.
	June.....	98.2	97.7		May.....	46,450.	28,350.
	July.....	97.1	91.9		June.....	44,360.	26,610.
	August....	104.7	99.8		July.....	46,150.	30,300.
	September	101.8	103.0		August....	44,790.	29,570.
	October...	95.6	97.7		September	49,920.	28,530.
	November..	103.2	102.9		October...	50,830.	30,050.
	December..	99.4	101.0		November..	51,490.	28,770.
					December..	53,420.	28,440.

TABLE H—INDEX NUMBERS OF SERIES IN THE GERMAN INDUSTRIAL GROUP

	Pig Iron Production	R. R. Re- ceipts per Kilometer	Wholesale Prices		Pig Iron Production	R. R. Re- ceipts per Kilometer	Wholesale Prices
1902	January.....		88.4	1904	January.....	88.0	96.0
	February.....		89.1		February.....	91.9	96.3
	March.....		89.9		March.....	92.9	96.6
	April.....		90.5		April.....	89.9	95.6
	May.....		91.0		May.....	87.4	93.5
	June.....		91.0		June.....	92.4	92.5
	July.....		90.2		July.....	90.5	93.5
	August.....		90.3		August.....	91.3	93.7
	September.....		90.4		September.....	93.1	94.4
	October.....		89.9		October.....	91.4	94.2
	November.....		89.4		November.....	91.3	94.6
	December.....		89.6		December.....	94.3	89.6
1903	January.....	85.9	91.3	1905	January.....	89.0	95.2
	February.....	87.5	92.1		February.....	88.1	95.2
	March.....	88.4	93.1		March.....	92.1	94.0
	April.....	87.8	93.6		April.....	91.9	95.3
	May.....	88.2	93.0		May.....	97.0	95.1
	June.....	88.9	93.3		June.....	92.6	96.8
	July.....	88.8	92.9		July.....	92.7	98.5
	August.....	90.3	93.3		August.....	95.8	100.0
	September.....	89.5	92.6		September.....	98.5	99.5
	October.....	88.5	92.2		October.....	93.8	100.4
	November.....	87.6	92.4		November.....	95.8	102.2
	December.....	85.7	94.2		December.....	99.8	104.3



TABLE 1—INDEX NUMBERS OF SERIES IN THE BRITISH BANKING GROUP

	Reserves, Bank of England	Bank Rate	Open Market Rate		Reserves, Bank of England	Bank Rate	Open Market Rate
1902	January.....	101.8	91.0	90.9	January.....	98.8	90.9
	February.....	99.5	98.0	81.1	February.....	94.4	86.7
	March.....	96.1	80.9	80.1	March.....	93.2	95.4
	April.....	93.0	87.0	70.2	April.....	89.5	93.5
	May.....	98.2	86.7	95.9	May.....	97.0	80.6
	June.....	100.0	95.2	105.9	June.....	91.1	79.3
	July.....	99.6	97.7	105.9	July.....	93.2	92.8
	August.....	99.0	96.5	96.9	August.....	96.9	113.6
	September.....	98.1	88.5	99.3	September.....	104.6	92.6
	October.....	99.2	102.5	103.9	October.....	116.4	68.0
	November.....	102.3	92.6	79.8	November.....	113.8	72.3
	December.....	95.3	91.7	99.0	December.....	100.3	73.5
1903	January.....	99.8	94.6	90.9	January.....	105.9	65.0
	February.....	95.9	100.3	99.5	February.....	104.2	73.8
	March.....	92.1	107.8	110.7	March.....	113.0	67.0
	April.....	97.3	116.0	119.1	April.....	110.5	68.1
	May.....	100.1	109.9	122.0	May.....	101.9	80.6
	June.....	97.6	103.1	115.4	June.....	110.1	77.0
	July.....	100.8	97.7	97.9	July.....	104.4	74.2
	August.....	96.1	96.5	96.9	August.....	105.2	68.6
	September.....	92.8	115.1	101.4	September.....	93.9	97.2
	October.....	93.7	103.3	109.4	October.....	88.2	116.9
	November.....	102.3	92.6	94.9	November.....	103.3	96.4
	December.....	94.0	91.7	99.0	December.....	103.3	83.1
1904	January.....	99.8	94.6	90.9	January.....	105.9	65.0
	February.....	95.9	100.3	99.5	February.....	104.2	73.8
	March.....	92.1	107.8	110.7	March.....	113.0	67.0
	April.....	97.3	116.0	119.1	April.....	110.5	68.1
	May.....	100.1	109.9	122.0	May.....	101.9	80.6
	June.....	97.6	103.1	115.4	June.....	110.1	77.0
	July.....	100.8	97.7	97.9	July.....	104.4	74.2
	August.....	96.1	96.5	96.9	August.....	105.2	68.6
	September.....	92.8	115.1	101.4	September.....	93.9	97.2
	October.....	93.7	103.3	109.4	October.....	88.2	116.9
	November.....	102.3	92.6	94.9	November.....	103.3	96.4
	December.....	94.0	91.7	99.0	December.....	103.3	83.1
1905	January.....	99.8	94.6	90.9	January.....	105.9	65.0
	February.....	95.9	100.3	99.5	February.....	104.2	73.8
	March.....	92.1	107.8	110.7	March.....	113.0	67.0
	April.....	97.3	116.0	119.1	April.....	110.5	68.1
	May.....	100.1	109.9	122.0	May.....	101.9	80.6
	June.....	97.6	103.1	115.4	June.....	110.1	77.0
	July.....	100.8	97.7	97.9	July.....	104.4	74.2
	August.....	96.1	96.5	96.9	August.....	105.2	68.6
	September.....	92.8	115.1	101.4	September.....	93.9	97.2
	October.....	93.7	103.3	109.4	October.....	88.2	116.9
	November.....	102.3	92.6	94.9	November.....	103.3	96.4
	December.....	94.0	91.7	99.0	December.....	103.3	83.1

TABLE I—Continued

	Reserves, Bank of England	Bank Rate	Open Market Rate		Reserves, Bank of England	Bank Rate	Open Market Rate
1906	January.....	90.2	94.6	1908	January.....	108.9	123.6
	February.....	93.9	100.3		February.....	109.7	100.3
	March.....	101.6	107.8		March.....	107.9	95.4
	April.....	102.7	103.2		April.....	113.6	87.0
	May.....	89.6	114.8		May.....	111.2	85.0
	June.....	92.7	121.5		June.....	110.9	87.2
	July.....	99.6	114.0		July.....	108.0	81.5
	August.....	102.3	112.5		August.....	102.3	80.4
	September.....	104.2	112.1		September.....	103.8	73.7
	October.....	85.7	131.6		October.....	108.8	64.6
	November.....	88.0	139.0		November.....	116.6	57.9
	December.....	102.1	137.5		December.....	107.4	57.4
1907	January.....	94.7	130.0		January.....	(000)	3.85
	February.....	102.6	125.3		February.....	19,700	3.99
	March.....	96.5	134.8		March.....	25,300	3.27
	April.....	93.0	132.1		April.....	27,400	3.45
	May.....	102.2	115.7		May.....	25,700	2.94
	June.....	97.6	127.0		June.....	24,500	2.87
	July.....	94.4	130.3	Base	July.....	24,800	3.15
	August.....	98.6	137.9		August.....	25,100	3.07
	September.....	103.4	132.9		September.....	24,000	2.64
	October.....	107.6	117.1		October.....	26,300	3.11
	November.....	81.6	156.3		November.....	23,800	3.39
	December.....	97.5	160.6		December.....	21,700	3.87
						15,700	4.32
							4.36



TABLE J—INDEX NUMBERS OF SERIES IN THE  
GERMAN BANKING GROUP

		Reserves	Deposits	Loans	Open Market Rate	Bank Rate
1902	Jan. ....	107.8	102.4	85.5	89.2	57.6
	Feb. ....	107.5	123.2	92.5	106.7	65.7
	March. .	108.7	110.3	90.3	92.8	67.7
	April. .	108.0	97.8	88.5	83.3	70.0
	May. ....	108.4	93.5	83.7	97.1	72.5
	June. ....	107.9	103.9	82.7	93.5	73.7
	July. ....	107.0	95.5	84.3	93.5	75.0
	Aug. ....	105.4	96.3	84.6	99.3	75.0
	Sept. ....	102.8	98.4	81.8	91.5	75.0
	Oct. ....	103.1	95.4	86.7	83.3	71.2
	Nov. ....	100.7	88.2	82.5	95.0	62.6
	Dec. ....	100.0	102.4	85.6	91.7	60.0
1903	Jan. ....	98.2	98.3	95.1	78.0	76.7
	Feb. ....	96.2	91.8	88.3	76.2	87.6
	March. .	95.1	99.6	85.3	61.9	79.0
	April. .	91.0	90.3	87.8	72.8	81.6
	May. ....	92.2	111.2	94.5	92.9	84.5
	June. ....	92.8	103.6	99.7	97.2	86.1
	July. ....	95.7	90.2	95.6	93.5	100.0
	Aug. ....	96.3	94.1	93.8	103.3	100.0
	Sept. ....	99.0	89.6	90.2	106.7	100.0
	Oct. ....	104.9	89.7	92.1	100.6	95.0
	Nov. ....	102.1	90.5	92.8	83.1	83.5
	Dec. ....	101.8	95.1	94.1	80.4	80.0
1904	Jan. ....	99.6	97.4	97.6	69.7	76.7
	Feb. ....	96.7	94.5	95.0	72.3	87.6
	March. .	96.5	90.4	95.5	92.8	90.3
	April. .	95.0	97.0	101.3	90.3	93.3
	May. ....	95.9	80.1	95.2	92.9	96.6
	June. ....	95.7	85.1	89.4	93.5	98.3
	July. ....	94.5	94.7	89.0	97.2	100.0
	Aug. ....	95.7	89.3	88.6	82.8	100.0
	Sept. ....	97.0	90.0	86.0	79.8	100.0
	Oct. ....	97.4	93.3	87.1	86.7	95.0
	Nov. ....	107.0	93.1	82.3	97.8	104.3
	Dec. ....	115.2	94.4	81.5	83.1	100.0
1905	Jan. ....	115.5	97.4	82.1	83.6	96.0
	Feb. ....	113.2	98.7	87.1	72.3	87.6
	March. .	112.0	106.6	88.8	54.2	79.0
	April. .	113.1	109.5	88.8	69.4	70.0
	May. ....	108.6	107.6	98.9	64.8	72.5
	June. ....	107.6	102.1	99.0	70.1	73.7
	July. ....	102.2	97.7	103.3	62.3	75.0
	Aug. ....	98.7	92.9	101.2	66.2	75.0
	Sept. ....	97.1	98.1	106.1	76.2	75.0
	Oct. ....	93.1	98.5	105.8	93.6	95.0
	Nov. ....	93.3	95.2	105.4	106.9	104.3
	Dec. ....	95.5	94.5	99.1	105.9	110.0

TABLE J—Continued

		Reserves	Deposits	Loans	Open Market Rate	Bank Rate
1906	Jan. ....	101.9	99.9	99.8	94.7	115.2
	Feb. ....	101.2	100.5	100.1	99.1	109.4
	March ..	100.0	100.5	104.5	112.0	112.8
	April ...	102.0	99.4	98.4	114.4	116.5
	May ....	101.8	92.0	97.2	105.1	120.9
	June ....	99.7	91.1	95.9	105.0	110.7
	July ....	94.9	104.2	106.4	120.5	112.5
	Aug. ....	93.7	94.9	107.9	111.6	112.5
	Sept. ....	91.2	87.6	103.4	106.7	112.5
	Oct. ....	83.4	97.5	115.6	121.4	118.8
	Nov. ....	86.8	97.4	118.6	124.7	125.2
	Dec. ....	86.1	101.8	117.6	114.7	120.0
1907	Jan. ....	86.3	104.2	111.8	128.2	134.4
	Feb. ....	89.9	100.1	111.9	133.2	131.3
	March ..	91.6	95.9	116.2	150.8	135.4
	April ...	91.3	108.1	120.3	156.1	139.9
	May ....	93.5	106.6	118.6	129.4	132.9
	June ....	95.0	110.0	123.1	143.9	135.2
	July ....	90.8	98.5	119.4	148.0	137.5
	Aug. ....	96.0	112.6	119.7	144.7	137.5
	Sept. ....	93.7	113.2	129.0	141.0	137.5
	Oct. ....	90.1	101.6	118.1	145.8	130.7
	Nov. ....	85.2	108.1	130.9	130.6	135.8
	Dec. ....	78.6	85.7	132.5	160.6	150.0
1908	Jan. ....	90.6	100.5	128.2	156.1	144.1
	Feb. ....	94.8	91.1	124.3	140.9	131.3
	March ..	95.6	96.8	119.9	135.2	135.4
	April ...	100.0	97.8	114.8	114.4	128.2
	May ....	99.8	108.8	112.0	117.1	120.9
	June ....	101.6	104.5	109.8	97.2	122.9
	July ....	114.3	119.5	102.0	85.7	100.0
	Aug. ....	114.5	120.1	104.4	91.1	100.0
	Sept. ....	118.7	122.9	102.9	99.0	100.0
	Oct. ....	128.1	124.4	94.7	69.4	95.0
	Nov. ....	125.1	127.4	88.0	62.2	83.5
	Dec. ....	122.7	126.2	89.1	62.8	80.0
Base		(000)	(000)	(000)		
	Jan. ....	41,890,	26,240,	57,520,	4.48	5.21
	Feb. ....	47,330,	24,720,	42,270,	3.28	4.57
	March ..	48,330,	28,630,	42,470,	3.23	4.43
	April ...	44,930,	27,380,	53,230,	3.60	4.29
	May ....	47,930,	28,230,	47,150,	3.09	4.14
	June ....	50,100,	29,760,	46,330,	3.21	4.07
	July ....	46,280,	26,950,	53,850,	3.21	4.00
	Aug. ....	48,120,	26,040,	45,500,	3.02	4.00
	Sept. ....	46,790,	28,870,	47,280,	3.28	4.00
	Oct. ....	40,560,	26,610,	61,120,	3.60	4.21
	Nov. ....	42,850,	24,920,	52,990,	4.21	4.79
	Dec. ....	43,350,	27,770,	49,800,	4.36	5.00

TABLE K—RELATIVES OF AMERICAN, BRITISH AND GERMAN COMPOSITES  
(Secular Trends Eliminated)

	American Investm't Comp.	American Indus. Comp.	American Banking Comp.	British Investm't Comp.	British Indus. Comp.	British Banking Comp.	German Investm't Comp.	German Indus. Comp.	German Banking Comp.
1902									
January	.35	.28	.52	.61	.68	.33	.46	.02	.50
February	—	.44	.59	.29	.03	.20	.18	.11	+1.06
March	.22	.29	.57	.26	.61	.33	.54	.19	+
April	.52	.25	.22	.23	.72	.24	.73	.16	+
May	.17	.08	.03	.01	.14	.14	.50	.25	+
June	+	.19	.00	.33	.01	—	.20	.22	+
July	+	.06	.05	.28	.43	.05	.65	.07	+
August	+	.20	.11	.31	.11	.02	1.01	.04	+
September	+	.09	.42	.03	.08	.07	1.02	.01	+
October	+	.17	.47	.00	.01	.15	1.08	.02	+
November	+	.16	.26	.11	.20	.43	1.13	.16	+
December	.13	.03	.45	.14	.13	.11	.90	.08	—
1903									
January	.02	.12	.07	.20	.07	.17	.46	.11	.16
February	—	+	.06	.07	.22	.18	.39	.03	—
March	.13	.47	.19	.06	.12	.63	.27	.05	+
April	.43	.30	.42	.24	.00	.62	.30	.07	+
May	.30	.17	.37	.21	.26	.42	.68	.01	—
June	.06	.17	.56	.18	.16	.33	.75	.00	+
July	.65	.13	.62	.15	.23	.09	.59	.03	.50
August	.78	.09	.63	.04	.01	.12	.74	.02	.30
September	—	.18	.54	.30	.20	.55	.90	.09	.23
October	1.06	.33	.57	.19	.09	.44	.08	.22	.05
November	.94	.67	.84	.57	.31	.25	.01	.25	.15
December	.86	.92	.68	.62	.08	.16	.28	.26	.32

TABLE K—Continued

	American Investm't Comp.	American Indus. Comp.	American Banking Comp.	British Investm't Comp.	British Indus. Comp.	British Banking Comp.	German Investm't Comp.	German Industrial Comp.	German Banking Comp.
1904									
January.....	.90	.65	.10	—1.01	.59	.13	.10	.01	.13
February.....	— .99	.23	.29	—2.02	.04	.13	.06	.08	.23
March.....	.96	.27	.45	—1.38	.08	.37	.63	.08	.42
April.....	—1.04	.29	.68	— .68	.13	.48	— .31	.12	.37
May.....	— .91	.35	.62	— .28	.23	.27	.44	.33	.77
June.....	— .50	.48	.66	— .28	.01	.10	.06	.46	.44
July.....	.61	.87	.92	— .38	.87	.20	.25	.48	.13
August.....	— .33	.53	.98	— .43	.29	.44	.79	.41	.29
September.....	— .52	.44	1.15	— .11	.18	.47	.31	.44	.14
October.....	— .40	.45	1.05	— .30	.35	1.44	.58	.47	.05
November.....	— .42	.23	.91	— .08	.12	1.44	1.09	.49	.43
December.....		.12	.54	— .19	.17	.78	1.09	.76	.76
1905									
January.....	.30	.42	1.11	.15	.60	1.12	1.04	.73	.90
February.....	.82	.37	.97	.34	.43	.86	1.33	.94	.75
March.....	— .96	.43	.88	.71	.02	1.42	1.61	.39	.93
April.....	— .62	.22	.56	.37	.65	2.04	1.64	.26	1.08
May.....	— .52	.08	.48	.18	.06	.30	1.38	.16	.62
June.....	— .52	.12	.31	.35	.11	1.04	1.02	.12	.39
July.....	— .57	.05	.40	— .38	.39	.77	1.96	.09	.06
August.....	— .83	.06	.36	.61	.35	.89	1.96	.14	.28
September.....	— .81	.29	.02	.89	.22	.07	2.31	.09	.31
October.....	— .03	.20	.33	.92	.35	.82	2.00	.18	.40
November.....	— .42	.06	.42	1.11	.34	.04	1.66	.31	.52
December.....	— .43	.21	.43	.93	.13	.45	1.27	.44	.25



TABLE K—Continued

	American Investm't Comp.	American Indus. Comp.	American Banking Comp.	British Investm't Comp.	British Indus. Comp.	British Banking Comp.	German Investm't Comp.	German Industrial Comp.	German Banking Comp.
1908									
January.....	-1.24	-1.05	— .22	— .76	+ .42	— .32	-1.02	+ .61	— .83
February.....	-1.25	-1.27	— .17	— .73	+1.01	+ .37	-1.18	+ .56	— .92
March.....	— .83	-1.52	+ .17	— .86	— .06	+ .55	-1.13	— .01	— .57
April.....	— .95	-1.42	+ .46	— .83	— .45	+1.06	-1.11	— .34	— .26
May.....	— .15	-1.61	+ .56	— .68	— .96	+ .88	— .58	— .43	+ .19
June.....	— .43	-1.52	+ .64	— .49	— .45	+1.38	— .73	— .66	+ .19
July.....	— .32	-1.50	+ .67	— .62	— .54	+1.17	— .83	— .55	+1.33
August.....	— .39	-1.30	+ .79	— .45	-1.27	+ .94	— .61	-1.02	+1.32
September.....	— .29	-1.16	+1.14	— .13	— .28	+1.19	— .25	-1.07	+1.60
October.....	— .25	-1.15	+1.18	— .23	— .79	+1.49	— .60	-1.24	+2.16
November.....	+ .41	-1.04	+1.31	— .02	-1.30	+2.00	— .41	-1.23	+2.33
December.....	+ .41	— .67	+1.24	— .07	— .69	+1.44	— .65	— .98	+2.21



## CHAPTER IV

### THE THEORY OF PROSPERITY CYCLES

#### A. INTRODUCTION

Theories of prosperity cycles may be divided into two main classes: first, those which hold that prosperity and depression are due to economic relations growing out of the modern industrial system of production and exchange, and second those which hold that these cycles are based on crop-yield cycles which are due in turn to cyclical fluctuations in temperature and rainfall.

In this chapter will be treated those theories which find the causal factors of prosperity cycles within the industrial and business mechanism itself and not in meteorological phenomena. These theories may be classified under three main heads: (1) those that place the emphasis upon producers' goods; (2) those that place the emphasis upon consumers' goods; (3) those that place the emphasis on money, credit, prices and capitalization.

Those theories which are concerned mainly or wholly with financial panics are here passed over entirely. They have in fact nothing to do with economic or industrial fluctuations proper. A financial panic is merely the seething foam of an industrial storm, and makes its appearance only in those countries which have a totally inadequate banking system. A panic obtains when thoroughly sound business firms are unable to get credit because of an inelastic system of currency and reserves. Such a situation has not obtained for a generation in any advanced European country.

The older and now obsolete theories of crisis are also passed by. The two categories into which they generally fell are indicated by the two formulae in which their arguments were put—over-production and under-consumption. Several modern theories may likewise be classed under these two general

heads, but modern theories have analyzed over-production and under-consumption with much greater detail and discrimination. The one finds the causal factor of crises in the under-consumption of producers' goods, the other in the under-consumption of consumers' goods. Only the newer formulations of the production and consumption theories will be dealt with here.

We have then the following classification:

A. Economic Theories.

- I. Those that emphasize Producers' Demand.
- II. Those that emphasize Consumers' Demand.
- III. Those that emphasize Money, Credit, Prices and Capitalization.

B. Meteorological Theories.

That modern economic theories of industrial fluctuations may be classed under three main heads may at first seem dubious. Mitchell describes modern theories under the following numerous heads: Competition Theory, Discrepancy between Wages and Productivity, Over-saving, Theory of Diminishing Utility, Over-capitalization, Ill-balanced Production of Industrial Equipment and Complementary Goods, Changing Costs of Construction, Variations in Prospective Profits, Discrepancy between Prospective Profits and Current Capitalization, Uneven Expansion in the Production of Organic and Inorganic Goods, Dissimilar Price Fluctuations of Producers' and Consumers' Goods, Theory of Lagging Adjustment of Interest, Theory of Impair Savings.<sup>1</sup> But when we come to look at the matter closely we find that one group finds the key to the situation in the over-production and under-consumption of producers' goods, another finds it in the over-production and under-consumption of consumers' goods, while a third group finds it in money, credit, prices and capitalization.

<sup>1</sup> Mitchell. *Business Cycles*, pp. 6-18.

## B. ECONOMIC THEORIES OF PROSPERITY CYCLES

## 1. THEORIES EMPHASIZING PRODUCERS' DEMAND

*(a). Minnie T. England<sup>2</sup>*

Mrs. England's theory places the emphasis definitely and entirely on the demand for producers' goods. Promotion is the cause of prosperity. Promotion implies the investment of social savings. When this investment is going on good times obtain; when it slows up depression appears. It is not a question of the "under-consumption" of consumers. It is a question of the "under-consumption" of investors. Increased prosperity is merely an increased demand for goods, but the goods in question are not consumers' goods but producers' goods. This increased demand for capital goods causes increased prices in capital goods, which results in larger profits for their producers. Higher wages are paid in these industries, more men are employed and there results an increased demand for consumers' goods. But this is a result and not a cause.

Promotion is carried on largely with borrowed funds obtained chiefly from banks. Thus promotion results in an increase in bank loans and bank deposits. This expansion of credit results in the demand which produces the rise in prices mentioned above. Hence the sequence runs as follows: increased promotion, expansion of credit, rise in prices. The important point to notice in this theory is that the increased loans leading to higher prices are primarily due to the purchase and production of capital goods which results from promotion, and not due to the purchase of consumption goods. This conclusion is substantiated by the fact that the prices of producers' goods rise before a rise occurs in the prices of consumers' goods; and also by the fact that the rise is higher for producers' goods.

<sup>2</sup>M. T. England, "Fisher's Theory of Crises," *Q. J. Econ.*, XXVII, 95-106; "Promotion as the Cause of Crises," *Q. J. Econ.*, XXIX, 631-41; "Economic Crises," *J. Pol. Econ.*, XXI, 345-54; "Analysis of the Crises Cycle," *J. Pol. Econ.*, XXI, 712-34.

Likewise when depression sets in the prices of producers' goods fall before the prices of consumers' goods, indicating that the check to prosperity is due to a falling off of promotion activity. Depression is brought on by the reverse of the forces which produced prosperity. Business failures occur which result in a loss of confidence in further investment. The demand for capital goods falls off, credit is contracted, and prices fall. Forced economy in consumption results, but the reduced demand for consumption occurs as a result of the falling off in the demand for producers' goods.

(b.) *George H. Hull*<sup>3</sup>

Hull offers the theory that prosperity and depression are nothing more or less than a variation in the amount of construction work. He holds that there are certain classes of goods that do not admit of any great fluctuations in demand. These are the necessities of life. Agriculture, commerce and finance are the departments of economic life that supply these necessities. In industry alone do we find a department of economic activity capable of sudden expansion or contraction. Three-fourths of industrial operations, it is claimed, consists of construction. Two-thirds of this construction consists of repairs, replacements and such extensions as are required by the steady growth of population. Therefore a large proportion of industrial operations are also incapable of any great extension or contraction. The other industrial operations are what Hull calls "extra" construction, or "investment" construction. Extra construction is undertaken only in a period of low prices when far-seeing investors enter upon a large amount of construction work. Others follow these leaders and the result is a great demand for iron and steel, lumber, cement, brick and stone. This creates a boom in the industries producing these products. Labor and raw materials are demanded on a large scale, and neither can be secured to the required extent. The inevitable result is a rise in wages and the price of raw materials, and with that high prices for con-

<sup>3</sup> George H. Hull, *Industrial Depressions* (New York, 1911).

struction goods. Far-seeing industrial leaders now cease the extension of construction work. The demand for construction material drops off. Laborers engaged on constructional enterprises suffer from unemployment and reduction in wages. Prices and wages fall until the low costs again make construction work profitable, and a new era of prosperity follows.

Prosperity then has nothing to do with the variation in the demand for consumers' goods. That remains relatively constant. But the waves of prosperity and depression are the result of variations in the demand for construction work.

(c). *D. H. Robertson*<sup>\*</sup>

Robertson in his *Study of Industrial Fluctuations* aims to present a complete statement of all the factors affecting prosperity waves. He discusses these factors under the two headings of supply and demand. With regard to supply he discusses the following points: (1) the influence of the time required to construct instruments of production; (2) the influence of the length of life of the instruments of production; (3) the influence of fluctuations in the cost of construction; (4) the influence of invention. Under "demand" he discusses: (1) changes in demand due to fashions, tariffs and wars; (2) the influence of the volume of crops on the demand for railroad equipment, shipping, constructional work, and iron and steel exports. Other points of less importance are also discussed.

Production begins to increase under one or more of the following influences: (1) a general increase in the physical productivity of effort due to the adoption of improved methods under the stimulus of depression; (2) an increase in the exchange value of industrial products against the products of agriculture due to an increased bounty of nature; (3) an expansion due either to an increase of confidence or an increased supply of gold or credit currency, which affords an additional bonus to business men because of the relative fixity of wages and interest rates; (4) an increase in the expected future pro-

<sup>\*</sup>D. H. Robertson, *Study of Industrial Fluctuations* (London, 1915); "Study in Trade Fluctuations," *J. R. S.*, LXXVI, 159-78.

ductivity of constructional goods due either to a wearing out of an exceptionally large number of existing instruments, or to the discovery of the industrial possibilities of a new country or to some physical or legal invention.

In the course of time the physical productivity of effort declines owing to the relapse into wasteful methods of production and to the operation of the law of increasing cost; agricultural shortage turns the ratio of exchange against industrial products; the monetary stimulus to increased production is reversed by a depletion of gold reserves and an increase of interest and wages in accordance with the rising price level; and a decline in the demand for construction goods occurs because of over-investment in these goods.

Here are many points familiar to crisis theories. The contribution made by Robertson is his discussion of the influence of the time required to construct instruments of production, and the influence of the length of life of these instruments.

The longer the time required to construct new instruments the greater will be the over-production of capital goods. An increased demand for certain producers' goods will make the production of these goods profitable because of their high price. But this high price will continue until the new batch of instruments is brought on the market. The longer the time required to bring this new batch on the market, the longer will be the period during which the production of these goods is stimulated, and the greater will be the quantity of capital goods finally produced. This discussion is borrowed largely from Aftalion, whose theory will be developed later.

The influence of the length of life of the instruments of production is the distinctive contribution of Robertson. During the rising price period a great quantity of industrial instruments are produced. These wear out simultaneously producing an appreciable shortage. This leads to high prices and a fresh burst of investment. Thus once started the cycles tend to be self-perpetuating. Meager statistics are presented in support of this theory. The longevity of iron rails, ships, cotton-spinning machinery, coal mines, etc., is considered. The facts do not seem to fit the theory very successfully.



Robertson's theory is by no means clean cut. On the whole, however, he places the emphasis on the demand for producers' goods. Depression is caused by the cessation of demand for producers' goods resulting from an over-production of these goods due to the length of time required to construct them. Prosperity is caused by the increased demand for producers' goods growing out of the shortage due to the simultaneous wearing out of the instruments of production constructed in a previous period of prosperity.

## 2. THEORIES EMPHASIZING CONSUMERS' DEMAND

### (a). *Aftalion*<sup>5</sup>

Aftalion's explanation of crises places the emphasis on the demand for consumers' goods. Assume as a starting point an insufficient satisfaction of wants obtaining because of under-production of consumers' goods. This results in high prices for consumers' goods, and a great increase in productive effort to supply more of these goods. But the great increase of production resulting fails to supply the wants of consumers or to weaken prices. The reason for this strange anomaly lies in the fact that the increased productive effort is not applied to the production of consumers' goods directly, but rather indirectly by a round about method which necessitates the production of capital goods before there can be an increase in consumers' goods. Until the new capital goods can be finished and put to work producing consumers' goods the demand for the latter remains unsatisfied.

The fluctuations in the prices of consumers' goods give rise to still greater fluctuation in the prices of producers' goods. In fact a relatively small change in the demand for consumers' goods may produce a very large proportionate change in the demand for producers' goods. If for example 10 per cent of a certain commodity is produced by new equipment every year, an increase of 10 per cent in the demand for this commodity would result in an increase of 100 per cent in the demand for new equipment. Thus an increase in the demand for con-

<sup>5</sup> A. Aftalion. *Les crises periodiques de surproduction* (Paris, 1913).

sumers' goods stimulates a still greater increase in the production of fixed capital. But while this production is going on, consumers' goods are no more numerous than before, and therefore the demand for consumers' goods persists which in turn induces the demand for producers' goods. These producers' goods are not immediately forthcoming. Statistics are presented showing that the horse power of machinery in various industries does not increase notably until a considerable time after the beginning of a boom period. It is only when the new instruments of production begin to pour out consumers' goods that the consumers' demand becomes satisfied and prices begin to drop. That affects the value of producers' goods, the demand for new construction falls, and prosperity wanes.

Thus the demand for both consumers' and producers' goods is prolonged by the fact that it requires a considerable length of time before the new instruments of production can be completed. And not only is prosperity prolonged by the long time required to produce new capital goods, but depression as well is prolonged by the same fact. Instruments already in process of production must be completed. Therefore the production of fixed capital continues even after the crisis period. Aftalion presents statistics to show that the horse power of machinery in various industries continues to increase from one to three years after the break in prices. Thus the curve of the production of capital goods lags behind the curve of general production and general prices one to three years.

But this overly large supply of industrial equipment continuing to be poured on the market for a considerable time after the drop in prices, must be put to use in order to get something out of it. Hence consumers' goods are poured out in greater and greater quantities, and depression is prolonged and aggravated. This state of affairs continues until the time has arrived when the demand for consumers' goods has again outstripped the industrial equipment. Then the rise in the prices of consumers' goods stimulates a new demand for producers' goods and another period of prosperity is launched.

It is therefore the fluctuation in the prices of consumers' goods which is at the bottom of economic cycles.

*(b). Carver*<sup>6</sup>

Professor Carver's theory resembles Aftalion's in many respects. He holds that a small increased difference between selling prices and expenses results in a large increase in profits. This large increase in profits results in a much higher capitalized value of the industrial equipment. The industrial equipment produces finished products which are either consumers' goods or at least much farther forward in the march toward consumers' goods than is the industrial equipment. A relatively small increase in the value of the finished product results in a much greater increase in the value of the fixed capital. This means that the value of producers' goods tends to fluctuate much more violently than the value of consumers' goods.

The enhanced value of the producers' goods due to larger profits stimulates the production of producers' goods much more than of consumers' goods since the value of the latter does not rise nearly as much proportionally. Less energy is therefore devoted to the production of consumers' goods. They become relatively scarcer and a still greater rise in prices results. That in turn leads to still larger profits and higher capitalized value of producers' goods. This condition of affairs continues to obtain until the new stock of producers' goods begins to pour out consumers' goods. Then prices drop, profits fall more than prices, and the value of producers' goods declines in proportion to the decline in profits. The production of capital goods is then checked and depression appears.

Here, as in Aftalion's theory, prosperity and depression grow out of fluctuations in the prices of consumers' goods.

*(c). Hobson*<sup>7</sup>

Hobson's theory is a modification and improvement of the socialistic theory of under-consumption. He believes that the fundamental cause of crises may be found in the existence of surplus incomes. Wealthy people with very large incomes are

<sup>6</sup> T. N. Carver, "A Suggestion for a Theory of Industrial Depressions," *Q. J. of Econ.* (May, 1903), pp. 497-500.

<sup>7</sup> J. A. Hobson, *The Industrial System* (London, 1909).

unwilling to consume it all by themselves. They desire to invest a considerable share of their incomes in producers' goods in order to increase their fortunes. These producers' goods necessarily emerge ultimately in the form of consumers' goods. The masses of the people with their limited incomes are unable to purchase all these consumers' goods. The inevitable result is a congested market, which leads to lower prices, less profits, and smaller incomes for the very rich. These reduced incomes force the wealthy classes to spend a greater proportion of their incomes and less is invested in capital goods. Thus consumption is given a chance to catch up with the capacity of the industrial equipment, surplus goods are worked off, and prices again rise. With the return of higher prices, profits are increased, incomes are greater, a larger and larger proportion of the surplus incomes are invested in capital goods, which are used in the production of consumers' goods. Thus production again outruns consumption.

This argument obviously disposes effectively of Mill's answer to the theory of under-consumption. Mill claimed that there could be no such thing as over-production because the doubling of the supply of commodities in every market would by the same stroke double the purchasing power. The means of purchase would always be present. Hobson does not deny that the means of purchase is present but he denies that the recipients of surplus incomes would ever be willing to spend enough of their income to prevent the over-production of consumers' goods. No matter how much production is directed toward the things that would appeal to the rich, even their ostentatious wants are so amply provided for that always will they desire in periods of prosperity to invest too large a proportion of their incomes in further production. Since they themselves are unwilling to spend the proper proportion of their incomes on consumers' goods, this investment must necessarily result in the production of goods intended for the masses. Because of the limited incomes of the masses this leads to the over-production of consumers' goods.

Thus there is a reserve of capital just as there is also a reserve of labor. Surplus incomes cause the incessant attempt

to employ capital in excess of the demand of the ultimate consumer.

One of two things must be done. Either the rich will have to abandon their excess investments and resort to greater spending, or else surplus incomes must somehow be reduced and greater equality of incomes attained. This would raise the standard of spending and thus limit saving. This end may be accomplished by the taxation of large incomes, by raising wages, and shortening the working day. These measures would result in greater purchasing power on the part of the masses and a balance would result between demand and supply.

### 3. THEORIES EMPHASIZING MONEY, CREDIT, PRICES AND CAPITALIZATION

#### (a). *Mitchell*<sup>8</sup>

Mitchell finds the persistent and recurring causes of business cycles in the fact that the industrial process of making and the commercial process of distributing goods are thoroughly subordinated to the business process of making money. Industry expands actively when business men find the prospect of profit-making good, and contracts when the money-making outlook is discouraging. It is the changes in business men's demand with which Mitchell is chiefly concerned. It may therefore be said that he also emphasizes the demand for producers' goods. But the important thing is his analysis of the origin of this demand. That is found in the profit margin; in the spread between selling prices and costs.

Profits are made on the margins between buying prices and selling prices on the one hand and the volume of transactions on the other.<sup>9</sup> The margin between the prices at which goods are bought and sold is the more fundamental of the two, and "forms a tolerable business basis for making profits. . . ."<sup>10</sup> Industrial activity is guided by the prospect of profits, and the prospect of profits depends on price-margins.

<sup>8</sup> W. C. Mitchell, *Business Cycles* (Berkeley, 1913).

<sup>9</sup> *Ibid.*, p. 26.

<sup>10</sup> *Ibid.*, p. 27.

A brief description of the different phases of the business cycle will indicate more clearly Mitchell's analysis. He begins with a description of the trough of the wave when a revival of prosperity is beginning to cumulate. Low selling prices, low costs, a narrow margin of profits, large bank reserves, low capitalization, conservatism in granting credits, moderate stocks of goods, and cautious buying obtain. Then expansion begins for some reason or other; it may be good harvests, heavy purchases by the government or an increase in the demand for exports. Expansion spreads to other fields because of the inter-related interdependence of the modern industrial society. Selling prices rise. Costs in the form of wages, interest rates and rents lag behind; raw material alone of buying prices rises higher than selling prices. The increased margin between costs or buying prices and selling prices as well as the greater physical volume of sales leads to larger profits. This increase in profits leads to an expansion of investments, heavy orders for new machinery, large contracts for new construction. Business is booming.

But stresses soon begin to accumulate within the business system. Costs begin to increase. Higher money wages are paid with extra pay for overtime. Efficiency of labor declines because of weariness due to overtime, the employment of undesirables, and the slowing up of work due to the knowledge on the part of the worker that jobs are numerous. Old leases expire, and new ones are made under less favorable terms. Interest rates rise because of the increased demand for loans and the depletion of cash reserves. Trade outstrips its capacity, and antiquated equipment and poorly located plants are brought into operation. The price of raw materials gains on the price of the finished products. Selling prices cannot rise indefinitely in all industries; in the public utility field rates are fixed by commissions; organic prices depend on harvests; production in some lines exceeds demand because of mistaken investment and this group widens and affects all the rest with a resulting decline in prices.

Two effects result from the foregoing: first, the price-margin is narrowed by the rising costs and the falling off in the rise



of selling prices; second, the demand for industrial equipment is affected by the stringent condition of the money market and the high cost of construction. Orders for steel mills, foundries, machine factories, copper smelters, quarries, lumber mills, cement plants, raw material, and supplies are cut off, and thus the volume of trade in producers' goods is diminished. This narrowing of the price-margin and the reduction in the volume of trade reduce profits.

The declining profits lessen the security of outstanding credits. Capitalization is scaled down both because of lower profits and also because of higher interest rates which affect the rate of capitalization. Inadequate security results in refusal to renew old loans. Settlement of old accounts is pressed and liquidation of huge credits results. Bankruptcy of large concerns ensues. Banks are hard pressed. An effort is made to replete reserves by the importations of gold, the increase of note circulation and the issue of clearing-house certificates. Stock and bond prices fall to an extremely low level. Business contracts, and workmen are discharged.

Depression is now in full swing. Workmen are unemployed, past savings are exhausted, all classes of incomes are reduced, and hence the consumers' demand for goods falls off. Prices drop owing to keener competition to make sales, and every reduction in price facilitates reduction in other prices.

Finally costs are reduced to a low level. Poorly located and ill-equipped plants are no longer used. The efficiency of labor is increased by the discharge of the poorer grade of workers and the fear of unemployment on the part of those retained. The price of raw material drops. Rentals are reduced. Loans are refunded at lower interest rates. Bank loans are readily obtainable. With closer economy on the part of managers and lower capitalization, earnings gradually become more satisfactory. The demand for goods returns with the exhaustion of the accumulated stocks, the constant growth of population and the development of new tastes and products. Low interest rates encourage borrowing and the investment in industrial equipment returns. Thus the price-margin is again widened,

the volume of trade is increased, profits grow and prosperity returns.

(b). *Veblen*<sup>11</sup>

Mitchell's theory corresponds in many respects to Veblen's theory. Veblen finds that modern industry is guided by business principles. Under the old order industry was a quest for a livelihood; under the new order industry is directed by the quest for profits. Formerly times were rated as good or bad according as the industrial processes yielded a sufficient output of the means of life; now, good or bad times depend on the rate of business profit. The controlling end at present is pecuniary considerations and not abundance of satisfying goods.

In modern times therefore the potent factor which serves as an incentive to the acceleration of business is a rise in prices. This rise in prices may be due to an increased demand growing out of governmental expenditures for war or preparations for war; or it may be due to an increased supply of the precious metals, an inflation of the currency, or a larger use of credit instruments as subsidiary currency. Money and prices, far from being negligible factors, as frequently stated by those who consider crises as the phenomena only of production and consumption, are in fact the primary factors. It is all a question of prices, business profits and capitalization.

Thus an era of prosperity is an era of increased earnings growing out of rising prices. These increased earnings consist of a differential gain in the increased selling price of the output over the expenses of production. When this differential advantage ceases the era of prosperity is on the wane.

This differential gain arises mainly from two causes. In the first place, certain outlying industries are not affected appreciably by the upward movement and the supplies drawn from these industries do not rise in price to any considerable extent. In the second place, wages advance slowly during an era of prosperity. The latter is the chief and most secure differential advantage.

<sup>11</sup> T. B. Veblen, *Theory of Business Enterprise* (New York, 1904).

These increased earnings or expected earnings lead to a higher market capitalization of industrial equipment. This higher capitalized market value increases the value of the property as collateral. Increased borrowing may take place on the basis of this higher value. Or contracts for the purchase of supplies may be entered into which are in effect an extension of credit. Thus the heightened market capitalization becomes the basis of a greatly extended credit either in the way of orders or formal loans.

But this period of increased earnings upon which the higher market capitalization is based finally comes to a close. The differential advantage mentioned above terminates because the necessary expenses of production presently overtake or nearly overtake the selling price of the output. "Increasing wages cut away the surest ground of that differential price advantage on which an era of prosperity runs."<sup>12</sup> The rate of earnings then falls off, the enhanced market capitalization proves to be too great for present earnings, the collateral consequently shrinks to a point where it will not support the credit extension resting on it in the form of outstanding contracts and loans. Loans are called or additional collateral is demanded, and liquidation ensues. Because of the interrelation of creditors and debtors such a movement once started has far-reaching effects.

Depression as well as prosperity is a product of pecuniary considerations. The pecuniary exigencies of the situation inhibit industrial activity. Depression means that business men do not derive a satisfactory gain from letting industrial activity continue at full capacity. There is an excess of the means of producing goods above what is expedient on pecuniary grounds. There is under-production in the sense that the supply of goods which finds its way into the hands of consumers is too scant for comfort, but there is over-production in the sense that there is more of an output offered than can be carried off at a fair price and an ordinary profit. It is a question of "fair prices" and "reasonable profits."

<sup>12</sup> *Ibid.*, p. 212.

A reasonable profit means a satisfactory return on the capitalized value of the enterprise. But a discrepancy arises between the high capitalization based on former high earnings or anticipated earnings and the present diminished earnings. Not only is the capitalization too high for present earning capacity, but it is also too high to fit the lowered cost of industrial equipment. Thus the capitalization is too high both from the standpoint of cost and earning-power. But interest bearing securities cannot be reduced except by reorganization, and other forms of capitalized wealth are reduced or scaled down with extreme reluctance. Some concerns are forced into bankruptcy, and are reorganized and capitalized on the basis of the reduced earnings. New competing concerns are coming in with plants built at lower cost, and fixed charges carrying lower rates of interest. These unencumbered competitors are making "reasonable profits" at current prices because their capitalization is based on lower cost and present earning-capacity. Their competition precludes an advance in prices to a point which would afford a "reasonable profit" to the other establishments paying interest and dividends on over-capitalized property.

Veblen advances the novel theory that under the fully developed régime of the machine industry chronic depression tends to become normal. Under fully developed machine production a persistent divergence arises between the past cost of production of a given equipment and the current cost of an equivalent equipment at a subsequent date. This discrepancy results from the gradual but uninterrupted progressive improvements of industrial processes. This discrepancy requires a progressive readjustment of capitalization to correspond with the continuously decreasing cost and lowered earning power. Therefore a "fair" rate of profit is not permanently attainable on the basis of the old capitalization. Depression is therefore the normal situation.

But this state of affairs did not obtain during the early part of the nineteenth century. Not until about the decade of the seventies did the efficiency of the machine industry in the pro-

duction of capital goods become so great that the cost of their production was lowered too rapidly to permit the progressive reduction of capitalization to keep pace with it. In other words up to the period of the seventies the shrinkage of capitalization following a crisis would be sufficient to maintain an appreciable under-capitalization for a considerable length of time before reduced cost of capital goods would again leave the capitalization too high. This period of under-capitalization would permit of "reasonable" profits and prosperity. But since the seventies the machine industry has become so efficient and the cost of producers' goods has been lowered so rapidly that any under-capitalization which might follow a crisis would quickly disappear without allowing time for recovery and boom. Hence depression is normal to the modern industrial situation.

(c). *Fisher*<sup>13</sup>

Fisher's theory places still greater emphasis on the monetary and credit aspects. Assume as a starting point a slight initial disturbance such as an increase in the quantity of money. This results in a rise in prices. The profits of business men increase greatly because, while prices rise, expenses such as interest on past loans, rent, wages, and salaries remain unaffected or are little affected. Larger profits encourage business men to expand their businesses by increased borrowings. These borrowings are mostly in the form of short time loans from banks. Such loans engender deposits, and deposit currency is therefore increased. Thus in spite of greater activity in trade and increased production prices continue to rise because of the expansion of deposit currency.

The period of prosperity obtains as long as enterprisers' profits continue abnormally high. But these profits are finally cut into from both sides. Interest rates, rent, wages and salaries ultimately rise, and costs are greatly increased. On the other hand prices are checked by the fact that deposit currency is contracted through the refusal of banks to extend loans except on hard terms if at all. Banks are compelled to dis-

<sup>13</sup> Irving Fisher, *The Purchasing Power of Money* (New York, 1911); *Why is the Dollar Shrinking?* (New York, 1914).

courage loans because they cannot permit a too abnormal expansion of loans relatively to reserves. Loans thus cease to expand and prices are checked on the one side while costs mount up on the other and profits are reduced. Bankruptcies and business failures ensue. Enterprises which were started by borrowing expect to be continued by renewed borrowing. When borrowing becomes more and more difficult insolvency necessarily follows. These bankruptcies tend to spread because the creditors of the insolvent firms necessarily are affected. Contracted loans, low prices, high costs, and small profits continue and depression rules.

This contraction becomes self-limiting, as soon as loans are easier to get. When reserves accumulate banks are led to make loans on easy terms. Borrowers again become willing to take ventures, loans are again demanded, prices begin to rise, business becomes profitable, and there occurs a repetition of the upward movement.

### C. CRITICISM OF THEORIES

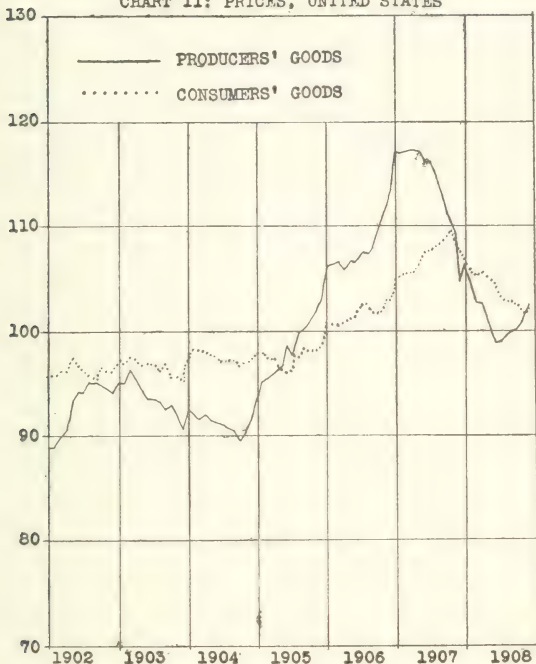
The vital point of conflict between the first two classes of theories discussed is found in the insistence on the part of one group that the trouble which results in crises begins with a lessening of demand on the part of the consumers, while on the other side it is claimed that the initial diminution of demand is on the part of business men for producers' goods. This conflict leads us to a comparison of the fluctuations of the prices of consumers' goods and producers' goods.

The available monthly data is for the United States and Germany. For the United States the relative prices of consumers' goods were obtained by averaging the monthly relative prices of food, clothing and house furnishings as given by the Bureau of Labor Statistics.<sup>14</sup> The relative prices for producers' goods were obtained by averaging the monthly relative prices of metals and implements, lumber and building material. These relative numbers were in turn reduced to the monthly bases used throughout this discussion. The rel-

<sup>14</sup> U. S. Department of Labor Bulletin, 1912, pp. 520-23.



CHART 11: PRICES, UNITED STATES



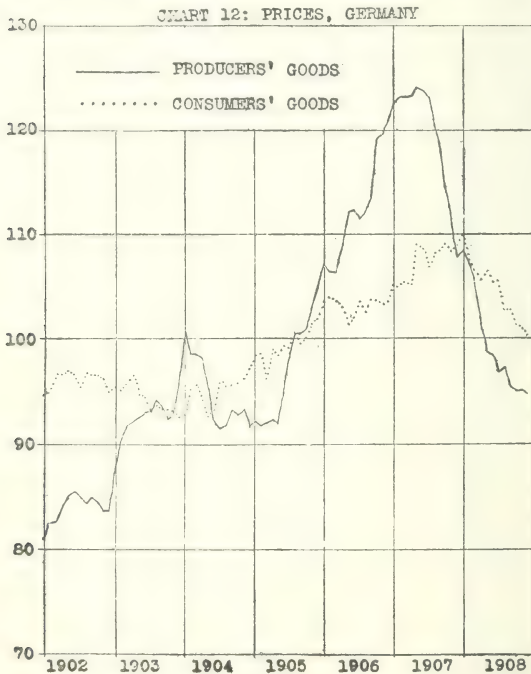
ative prices of producers' and consumers' goods for Germany were calculated from original data by the writer.<sup>15</sup> The price

<sup>15</sup> *Vierteljahrsheften*, 1902-1909. Sixteen commodities are included in the producers' goods series, as follows: Häute und Felle, Wolle, Baumwolle, Baumwollengarn, Leinengarn, Rohseide, Hauf, Mexikanische Faser, Rohjute, Eisen, Blei, Kupfer, Zink, Zinn, Steinkohlen, Petroleum. The method used in computing the index numbers is similar to that used by Bradstreet. Bradstreet simply added together the prices per pound of the various articles used. The method here used was to add together the prices per 100 kg. of most of the commodities named but in some cases a different unit was used. Thus for Rohseide the prices of 1 kg. were used, and for Eisen and Steinkohlen the prices of 1,000 kg. were used. The summations thus obtained were reduced to index numbers with the monthly averages used as bases.

Fourteen commodities are used in the consumers' goods series as follows: Kartoffeln, Rindvieh, Schweine, Kälber, Hammel, Roggenmehl, Weizenmehl, Butter, Zucker, Rüböl, Kaffee, Tee, Pfeffer, Schmatz. The prices were summated as before. One hundred kg. was used as the unit in most cases with the following exceptions: Kartoffeln 1,000 kg., Roggenmehl 1,000 kg., Weizenmehl 1,000 kg. Index numbers were computed by dividing the monthly averages into each of the foregoing summations.

fluctuations of the two groups for the United States are given in Chart 11, and for Germany in Chart 12. The relative numbers are given in Table XI.

From the charts and table the following facts become evident: (1) In both countries the prices of consumers' goods



begin to decline about seven months after the decline in the prices of producers' goods. (2) In both countries the prices of producers' goods fluctuate more violently than the prices of consumers' goods. In Germany producers' goods fluctuate 150 per cent more than do consumers' goods, while in the United States the fluctuation is 100 per cent greater. (3) The prices

of both consumers' and producers' goods fluctuate more widely in Germany than in the United States. The fluctuation of consumers' goods is 25 per cent greater, and 50 per cent greater for producers' goods.

These facts would then seem to prove conclusively that the initial disturbance arises in a diminution in the demand for producers' goods.

It has been suggested however by both Aftalion and J. M. Clark<sup>16</sup> that the apparent conclusion is exactly the opposite of the truth. The change in the demand for consumers' goods is in reality the cause of the change in the demand for producers' goods even though the maximum and minimum points of the latter precede the maximum and minimum points of the former. The reason for this may be indicated by distinguishing between a change in absolute demand, and a change in the *rate* of increase in demand. There are two distinct demands for producers' goods: first, the demand for the maintenance and replacement of existing capital goods; second, the demand for new construction. The first demand depends upon the life of producers' goods, or the rate of depreciation, and the amount of consumers' goods continually needed. The second demand depends upon the *increase* in the demand for consumers' goods. Suppose 10 per cent of the existing capital goods has to be replaced every year, and suppose the increase in demand is so great that an additional 10 per cent of the present supply of producers' goods must be forthcoming in order to meet the increased demand. Then the equipment for the production of capital goods must be large enough to supply 20 per cent of the existing capital each year. Now any lessening in the *rate* of increase in demand for consumers' goods would result in an absolute diminution in the demand for producers' goods. Suppose the increased demand for consumers' goods is reduced to a point which will require only an additional 8 per cent of capital goods over and above replacement. Then the total demand for producers' goods is reduced from 20 per cent of the existing equipment to 18 per cent, an absolute de-

<sup>16</sup> J. M. Clark, "Business Acceleration and the Law of Demand: A Technical Factor in Economic Cycles," *J. of Pol. Econ.*, XXIV, 217-35.

TABLE XI—INDEX NUMBERS OF WHOLESALE PRICES OF PRODUCERS' AND CONSUMERS' GOODS IN THE U. S. AND GERMANY

		Producers' Goods— U. S.	Consumers' Goods— U. S.	Producers' Goods— Ger.	Consumers' Goods— Ger.
1902	January...	88.8	95.9	81.1	94.7
	February...	88.8	95.9	82.5	94.9
	March...	89.8	96.1	82.7	96.6
	April.....	90.6	96.1	84.1	96.6
	May.....	93.3	97.4	85.2	96.9
	June.....	94.2	96.4	85.5	96.6
	July.....	94.2	96.3	84.9	95.4
	August....	95.1	95.8	84.3	96.7
	Sept.....	95.0	95.3	85.0	96.4
	October...	94.6	96.3	84.4	96.4
	November..	94.5	96.0	83.7	96.1
	December..	94.0	96.1	83.7	94.9
1903	January...	95.7	97.1	87.9	95.4
	February...	95.6	96.8	90.1	95.1
	March...	96.4	97.5	91.9	95.7
	April.....	95.6	97.2	92.2	96.4
	May.....	94.1	96.4	92.7	94.7
	June.....	93.8	96.9	93.1	94.4
	July.....	93.5	96.5	93.2	93.2
	August....	92.8	96.2	94.1	93.7
	September	92.4	96.9	93.3	93.3
	October...	92.8	95.8	92.4	93.3
	November..	91.6	95.8	93.0	93.2
	December..	90.9	95.6	95.9	92.6
1904	January...	92.5	97.0	100.6	92.8
	February...	92.0	98.0	98.6	95.2
	March...	91.6	98.0	98.5	95.6
	April.....	91.8	97.9	98.1	94.1
	May.....	91.6	97.7	95.2	92.7
	June.....	91.5	97.7	92.4	93.2
	July.....	91.3	96.9	91.6	96.2
	August....	90.9	97.1	91.9	95.4
	September	90.7	97.1	93.3	95.6
	October...	89.7	96.5	92.8	95.8
	November..	90.3	96.7	93.4	96.1
	December..	91.5	96.8	91.7	97.0
1905	January...	93.8	97.7	92.2	98.2
	February...	95.3	97.7	91.9	98.5
	March...	95.7	96.9	92.0	96.1
	April.....	96.1	96.9	92.3	98.9
	May.....	96.5	96.2	92.0	98.4
	June.....	98.3	96.0	94.8	99.3
	July.....	97.6	96.6	98.6	99.1
	August....	99.6	97.6	100.3	100.6
	September	100.0	98.1	100.4	99.4
	October...	100.8	97.9	101.1	100.1
	November..	102.0	98.1	103.2	101.5
	December..	102.4	98.3	105.1	102.0

TABLE XI—Continued

		Producers' Goods— U. S.	Consumers' Goods— U. S.	Producers' Goods— Ger.	Consumers' Goods— Ger.
1906	January...	106.0	100.6	107.2	103.7
	February...	106.4	100.5	106.4	104.0
	March.....	106.6	100.4	106.3	103.8
	April.....	105.9	100.6	109.0	103.2
	May.....	106.6	100.8	112.2	101.5
	June.....	106.5	101.2	112.3	102.2
	July.....	107.7	102.3	111.6	103.7
	August.....	107.1	102.4	112.1	102.7
	September	108.1	101.7	113.4	103.9
	October...	110.3	101.7	119.3	103.9
	November...	111.9	103.1	119.8	103.5
	December...	113.8	103.6	120.9	103.8
1907	January...	117.1	104.9	122.4	105.2
	February...	117.0	105.4	123.0	105.0
	March.....	117.2	105.8	123.2	105.5
	April.....	117.2	105.6	123.3	105.3
	May.....	117.0	106.4	124.0	109.1
	June.....	116.3	107.5	123.8	108.6
	July.....	116.2	107.8	123.2	106.8
	August.....	114.5	108.1	120.3	108.2
	September	113.7	108.4	118.9	108.3
	October...	111.1	109.6	114.6	109.1
	November...	109.2	108.6	111.6	108.4
	December...	104.6	107.3	107.9	108.9
1908	January...	106.1	106.8	108.4	109.9
	February...	104.4	105.7	107.3	107.5
	March.....	102.7	105.4	105.5	106.6
	April.....	102.5	105.7	100.9	105.8
	May.....	100.6	105.2	98.7	106.5
	June.....	99.0	104.3	98.4	105.4
	July.....	99.2	103.8	96.9	105.7
	August.....	99.8	102.7	97.2	102.8
	September	100.0	102.6	95.6	102.9
	October...	100.4	102.4	95.1	101.5
	November...	100.7	101.6	95.1	101.1
	December...	102.6	102.1	94.8	100.4
Base	January...	125.4	112.8	1,795	1,743
	February...	126.7	112.9	1,800	1,740
	March.....	127.1	112.9	1,811	1,722
	April.....	127.6	112.5	1,810	1,718
	May.....	128.8	111.8	1,822	1,720
	June.....	128.1	111.8	1,820	1,714
	July.....	127.4	112.0	1,818	1,746
	August.....	127.4	112.2	1,816	1,777
	September	127.2	112.8	1,804	1,793
	October...	127.0	113.3	1,805	1,810
	November...	127.6	113.9	1,814	1,806
	December...	127.5	114.3	1,824	1,776

crease. Thus part of the equipment prepared to produce capital goods must remain idle. The demand for consumers' goods is still increasing but the *rate* of increase is less than before. A reduction in the rate of increase in the demand for consumers' goods produces an actual decrease in the demand for producers' goods. Thus while the curve of demand for consumers' goods is still rising, though at a diminished *rate*, the curve of demand for producers' goods is actually falling. The change in the demand for consumers' goods is the causal factor, but the fact that the curve for producers' goods falls while the curve for consumers' goods is still rising gives the false impression that the initial trouble begins with the demand for producers' goods.

Is there then any evidence to show that the prices of producers' goods fall because of a diminution in the rate of increase in the prices of consumers' goods?

The index numbers given above indicate that there is not any such evidence. The high point in the prices of producers' goods is reached in April, 1907, in the United States, and in May, 1907, in Germany. If the theory just referred to were true, the rate of increase in the prices of consumers' goods should show a decline before this point is reached. No such decline is indicated. On the contrary the prices of consumers' goods continue to rise in a remarkably even course until October, 1907, in the United States, and until January, 1908, in Germany. The following table gives the average monthly rate of increase in the prices of consumers' goods in each country by periods of five months.



United States		Germany	
Period	Average Rate of Increase	Period	Average Rate of Increase
March-July, 1906-----	Pet. 0.4	June-October, 1906----	Pet. 0.5
August-Dec., 1906-----	0.3	November, 1906 }-----	0.3
January-May, 1907----	0.5	March, 1907 }-----	
June-October, 1907----	0.6	April-August, 1907----	0.5
		September, 1907 }-----	0.3
		January, 1908 }-----	

There clearly is no evidence of any decline in the rate of increase in the prices of consumers' goods. In fact, so far as the United States is concerned, the rate of increase appears if anything to increase after the fall in the prices of producers' goods. It may also be profitable in this connection to examine the curves given in Charts 11 and 12. So far as the evidence goes it does not appear that the prices of producers' goods fall because of any decline in the rate of increase in the prices of consumers' goods. In short, the theories emphasizing consumers' demand do not appear to harmonize with the statistical facts.

Aside from the question as to whether the initiatory demand begins with consumers' goods or producers' goods, is the question as to the fundamental nature and cause of increasing and decreasing demand. It is the contention of the third group of theories discussed that the real basis of demand cannot be found in questions relating to production and consumption alone, but must in the modern business economy be sought in price margins and capitalization, in monetary and credit phenomena.

## D. CONCLUSIONS FROM THE STUDY OF MONTHLY DATA

The writer believes that the conclusions derived from this study of monthly data bring support on the whole to the third group of theories.

Demand is based on purchasing power. The source of purchasing power is income, and the source of income is the production of material goods and services. Production gives rise to income, income means purchasing power, purchasing power is the basis of demand, and demand in turn regulates production. In short goods and services are exchanged against goods and services. On this basis one would expect production to run an even course, and not to run in cycles. And indeed in the barter economy there were no business cycles. But modern purchasing power functions largely through bank credit. We shall now consider the phenomenon of bank credit and its effect on purchasing power.

The nominal purchasing power obtaining in any society at any given moment may be measured substantially by the amount of money in hand to hand circulation and the volume of bank credit in the form of deposit currency. Doubtless it exceeds the above somewhat because individuals, firms, corporations and governmental units are able to make use to a certain extent of their personal credit directly without exchanging it for bank credit. Thus purchases may be made against personal notes, secured or unsecured, and time drafts or bills payable, without the purchaser making use for the time being of money or bank credit. Such personal credit, however, is ordinarily converted into bank credit sooner or later. The personal notes or time drafts received against sales may be discounted at a bank, and the individual or firm heavily loaded with bills receivable will probably be compelled to borrow on its own notes at some bank.

In one sense it might be argued that the total purchasing power of a nation is equivalent to its total wealth. But as an actual fact this is untrue. The extent to which wealth represents purchasing power depends on the extent to which it can be used against purchases, or the degree of its acceptability as a

means of payment. In as far as barter is an unacceptable economy, just so far most forms of wealth become utterly useless as means of payment against purchases. Money is the only form of wealth which is generally acceptable. All other forms of wealth have varying degrees of acceptability ranging all the way from coupon government bonds to real estate. These forms of wealth can be said to have real purchasing power only in so far as they may be converted into bank credit. Only that portion of the wealth of a nation which has been or can readily be hypothecated at a bank and converted into bank credit in the form of bank deposits or bank notes may be said to have effective purchasing power.

Now it is impossible for all the wealth of a nation to be thus converted into purchasing power at once, because banks are limited in the extent to which they may extend their credit by the supply of their reserves. These reserves in turn are dependent in volume largely upon the quantity of lawful money in the given country, and ultimately in the world. But a more fundamental reason lies in the fact that a definite relation must always exist between the money value of a nation's wealth and its supply of money and bank credit. A nation could never have a supply of circulating media equal to the money value of its property because with every increase in the supply of circulating media the value of property would rise. Actual purchasing power, therefore, in the form of bank credit could never overtake the nation's wealth for two reasons: first, because the volume of bank credit is restricted by law or banking prudence to a certain proportion of the money available for reserves; and second, because property values would themselves be inflated by any increase which might occur in bank credit.

Personal credit measured in terms of the total wealth can therefore never all be converted into bank credit or ready purchasing power. According to Fisher's estimate the wealth of the United States is normally about twenty times the average amount of deposit currency. Up to the time of the establishment of the federal reserve system, deposit currency would fairly measure the bank credit in the country.

It is therefore obvious that the possible extension of bank credit has no limits so far as personal credit is concerned. It is limited, however, by two things: first, by the quantity of reserves; second, by the desirability of converting personal credit into bank credit, and this depends upon the discount rate and the profitableness of the employment of capital in industry.

There are therefore limits to the extent to which property can be converted into immediate purchasing power through the issuance of bank credit. But to the extent that bank credit is extended it appears that a portion of the purchasing power of the community comes from sources other than income. But this addition to the total purchasing power of the community is nominal rather than real. To the extent that present purchasing power is nominally increased through the issuance of bank credit, to that extent there is also an addition to the circulating media. The effect is an increase in prices and therefore no increase in real purchasing power. The nominal incomes of people generally are as before, but their real purchasing power is reduced because of the increase in prices. The issuance of bank credit simply re-distributes purchasing power, reducing the real purchasing power of income receivers generally, and increasing the purchasing power of entrepreneurs able to secure bank credit. It is this redistribution of purchasing power, accomplished through the instrumentality of banking institutions, that changes demand, upsets prices, affects the profit margin, and therefore production. Here in short, may be found the fundamental cause of the business cycle.

Bank credit may be likened to a spiral spring which may be stretched within certain limits of safety. These limits depend upon the amount of reserves needed to maintain the solvency of the banking system. The magnetic force which draws out the extensible bank credit is the entrepreneur's anticipation of profit. When accumulated stocks have run out, when costs are falling, when labor is easily obtainable, when loanable funds are plentiful and interest rates run low, then prospects for profit-making are bright and entrepreneurs apply for bank credit. The issuance of bank credit increases

the purchasing power of entrepreneurs. The result is increased bidding for raw materials, capital equipment, construction work, etc., with a consequent increase in prices. The effect is increased profits for entrepreneurs producing raw materials and equipment. They in turn will apply for bank credit with which to expand their business. Thus in turn their purchasing power is increased, adding further force to the upward movement of prices. So long as bank credit continues to be capable of further expansion, prices continue to rise. This upward movement comes to a close only when bank credit can no longer be further extended for the reason that it has already reached the limit of banking safety.

The demand for bank credit continues to be strong while prices are rising owing to the resulting margin between costs and selling prices. But rising prices result in more money being drawn out into hand to hand circulation. The effect is an actual diminution in bank reserves in the very period when bank credit is being extended. It therefore becomes necessary not merely to stop the expansion of bank credit, but actually to reduce the outstanding volume. The demand for bank credit is not lacking, but the supply is strained to the limit of safety. The banks protect themselves by raising the discount rates and scrutinizing more carefully the solvency of borrowing firms. A gradual reduction in outstanding bank credit is forced. This movement results in the forced sale of securities because of the inability of borrowers to renew their loans. The stock market begins to decline, trading on the stock exchange is reduced, and bank clearings fall off. New securities are issued with difficulty, which, coupled with the inability to obtain loans at the bank, reduces the purchasing power of business enterprises. Presently building falls off, then production, imports and commodity prices. Thus the limitation in the volume of bank credit gradually drags down stock prices, shares traded, bank clearings, building, employment, imports, production, prices and earnings. When the diminution in profits appears, the downward movement is further accelerated by the letting up in the *demand* for bank

credit. Thus the downward movement like the upward movement tends to become self-perpetuating.

But as the upward movement culminates because of the strain placed upon bank reserves through an undue extension of bank credit, so the downward movement comes to a close because of the great accumulation of bank reserves due to the reduction of outstanding bank credit and the return of money from hand to hand circulation following the decline of prices. This continued accumulation of reserves leads bankers progressively to lower discount rates to a point low enough to make the employment of bank credit again profitable. New securities are freely issued, bank loans are readily obtainable, and the purchasing power of business enterprises increases. Thus the upward swing returns and the cycle repeats itself.

The increased demand which results from the extension of bank credit soon shows itself in a rising stock market, greater production, more imports, larger employment of labor, increased immigration, and rising prices. Rising prices and the increased volume of production result in increased earnings and profits. Thus the movements of reserves, bank credit and discount rates pull up after them first, the investment series, stock prices, shares traded, bank clearings, etc., and second, the series which represent industrial conditions *per se*, commodity prices, production, imports, employment, immigration, and earnings.

That the above analysis finds verification in the monthly data presented in this study may be seen from a reference to the charts and tables given in Chapter II. The first movement takes place in bank reserves, loans, deposits and discount rates. In the United States reserves began to accumulate late in 1903. With the upward swing of reserves, loans and deposits were extended. The banking group as a whole began to rise in December 1903. The extension of bank credit increased the demand for securities. The stock and bond market began to rise in the early part of 1904. Building began to increase in May, the production of pig iron began to increase



in earnest in September, imports started upward in August, commodity prices in July, and railroad gross earnings in August. The average of the Industrial group started upward in August. It will be noticed that in nearly every case there was a short preliminary rise which, however, received a setback, and was disregarded in the above statements. Thus the upward swing of reserves, bank deposits and loans, the easing up of discount rates, pulled up, one by one, first the various series connected with the security market, and then the series associated with industrial activity itself.

The downward movement again began with reserves, deposits, loans and discount rates. This group began to decline in the first half of 1905. The reduction of bank credit affected the security market and stock prices began to drop. The average of the investment series began to turn down in the early part of 1906. Industrial activity still continued to increase for a time, but gradually the inability to float new securities or to get bank credit had its effect. Building began to decline in May, 1907, unemployment in July, and the industrial barometer, composed of production of pig iron, imports, commodity prices, railroad gross earnings and immigration, in August.

Similar facts appear in the upward movement following the crisis of 1907. Reserves, deposits and loans started upward in September, 1907. Discount rates eased up. Stock prices followed in the early months of 1908. Building increased in March, and the industrial barometer started on the upward movement in June, 1908.

The movements for Great Britain and Germany correspond with remarkable closeness of detail to those in the United States, and verify the conclusions stated. No economic phenomena are so international in their interrelation and interdependence as are the movements of the money market. That fluctuations of prosperity and depression are world-wide, at least so far as the advanced countries of the world are concerned, would certainly bring some support to the conclusion that these fluctuations are, at bottom, movements of money,

credit and prices. Certainly no other economic factors can be claimed to be so international in scope as the movements of the money market. Crops, favorable or unfavorable legislation, governmental demands, local catastrophes, etc., all modify the course of the fluctuations in the several countries, but the dominant factors are the great international movements of money, credit and prices.

That the cycle of prosperity and depression is at bottom a question of money, credit and prices is also supported by the historical fact that during the long period of declining prices from 1873 to 1897 depression was chronic both in the United States and Great Britain, and to some extent in all countries. Continued depression was broken only by two brief periods of prosperity. Since 1897 prosperity has been chronic, so to speak, broken only by temporary periods of depression. The reason lies in the fact that the period from 1873 to 1897 was a period of falling prices broken only at short intervals by temporarily rising prices. The period from 1897 to the present has been a period of continually rising prices, broken by short intervals of falling prices. Falling and rising prices are generally conceded to be mainly monetary and credit phenomena.

The analysis of monthly data presented in the foregoing pages would indicate the following points:

- 1) That the first movement in the prosperity cycle begins with reserves, loans, deposits and money rates.

- 2) That the movement of reserves, loans, deposits and money rates is the causal factor working out its influence on stock and bond prices, transactions on the stock exchange, bank clearings, business failures, building, employment, production, imports and exports, prices and profits.

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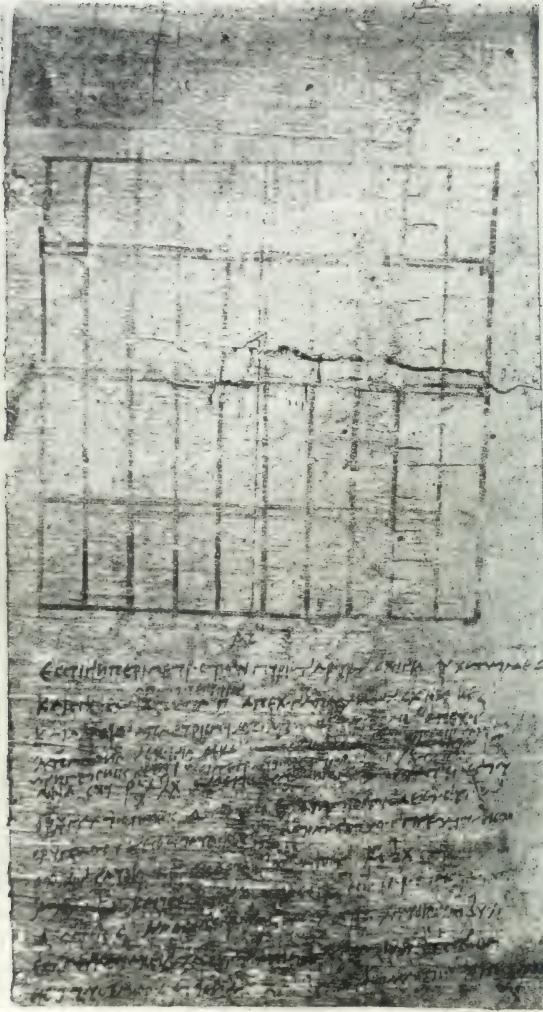


PLATE I

P. LILLE I. PEGION. MAP AND LIST OF THE IRRIGATION WORKS ON THE ESTATE OF APOLLONIUS



UNIVERSITY OF WISCONSIN STUDIES  
IN THE SOCIAL SCIENCES AND HISTORY  
NUMBER 6

A LARGE ESTATE IN EGYPT IN THE  
THIRD CENTURY B. C.

A STUDY IN ECONOMIC HISTORY

BY  
MICHAEL ROSTOVITZ

PROFESSOR OF HISTORY

MADISON

1922



TO  
BERNARD P. GRENFELL



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## PREFACE

I have but few points to emphasize in this short preface. The most important is to express my conviction that the progress of our studies on papyrology, progress which is of the greatest importance for our knowledge of the ancient and thus of the modern world in general, largely depends on a systematic excavation of as many cities and villages of the Fayum as possible. What has been done up to this time is merely fairly systematic digging for papyri, hunting after documents, mostly regardless of other remains uncovered during the excavations. However the more we deal with the written documents the more we feel the necessity of having before us the scenery in which the Greco-Egyptian life was led. For a better understanding of the documents, sometimes for understanding them at all, we need to have before us a full picture of one or more of the villages of the Fayum, the ruins duly explored, mapped and photographed, the remains of the furniture, the implements and utensils of its inhabitants. Moreover I am sure that such an exploration if systematic and scientific will certainly yield many new papyri or at least will make it certain that no more papyri can be found in this place. I have often discussed this idea with Mr. B. P. Grenfell and he fully agreed with me. Some days ago I received a letter from Mr. C. C. Edgar, another great authority in this domain. He writes as follows: "The idea of systematically clearing one of the Fayum sites has long attracted me. But it would have to be done by a European or American society; the Egyptian Government, I feel sure, will never undertake it. And if it is to be done it must be begun at once, for the destruction of all these sites has become more and more rapid. In fact I am afraid it is too late to do anything of the sort at Philadelphia, though papyri are still being found there (there was another big find last year); but it might still be possible to work Batn Harit (Theadelphia)."

Is it utopian to think that there are men and women in the United States who may grasp the importance of such excavations and may help one of the existing organizations to carry out such an excavation?

The second point, not less important to me personally, is to express my warmest thanks to those who helped me in bringing together and explaining the important material which forms the subject of this book. I am greatly indebted to Mr. C. C. Edgar for sending me his valuable articles and for supplying me with the photographs of the Cairo papyri which are reproduced on pl. II and III. Dr. H. J. Bell was kind enough to lend me his copies of the Zenon papyri of the British Museum. Professor P. Jouguet has sent me the photograph of the top of P. Lille 1, reproduced here on pl. I. But my greatest thanks are due to my colleague and friend, Professor E. H. Byrne, who helped me in the most unselfish way to give to my English respectable form. Many thanks are also due to Professor W. L. Westermann who was good enough to read the proofs of this book. The Index was compiled by my wife, Mrs. S. Rostovtzeff.

## LIST OF ABBREVIATIONS

- ARCH.—*Archiv für Papyrusforschung*, herausgegeben von U. Wilcken, I-VI, 1901-1920.
- B. G. U.—*Aegyptische Urkunden aus den Museen zu Berlin*, herausgegeben von der Generalverwaltung. *Griechische Urkunden*, I-IV, 1895-1912.
- DIKAIOMATA.—*Dikaïomata, Auszüge aus Alexandrinischen Gesetzen und Verordnungen in einem Papyrus des Philologischen Seminars der Universität Halle mit einem Anhang weiterer Papyri derselben Sammlung*, herausgegeben von der Graeca Halensis, Berlin, 1913.
- P. ELEPH.—*Elephantine-Papyri*, bearbeitet von Rubensohn, mit Beiträgen von Schubart und Spiegelberg, Berlin, 1907. (Special volume of B. G. U.)
- P. FREIB.—*Mittheilungen aus der Freiburger Papyrussammlung*, I-II. *Sitzungsberichte der Heidelberger Akademie der Wissenschaften* 1914, 2 Abhandlung (*Ptolemäische Kleruchenerkunde*, herausgegeben von M. Gelzer).
- P. GEN.—*Les papyrus de Genève*, transcrits et publiés par J. Nicole, I, Genève, 1896-1906.
- P. GIESS.—*Griechische Papyri im Museum des Oberhessischen Geschichtsvereins zu Giessen*, im Verein mit O. Eger herausgegeben und erklärt von E. Kornemann und P. M. Meyer, I, Leipzig, 1910-1912.
- P. GRAD.—*Griechische Papyri der Sammlung Gradenwitz*, herausgegeben von G. Plaumann. *Sitzungsberichte der Heidelberger Akademie der Wissenschaften*, 1914, 15 Abhandlung.
- P. GRENFELL I—*An Alexandrian Erotic Fragment and other Greek Papyri chiefly Ptolemaic* edited by B. P. Grenfell, Oxford, 1896.
- P. GRENFELL II—*New Classical Fragments and other Greek and Latin Papyri* edited by B. P. Grenfell and A. Hunt, Oxford, 1897.
- P. HAL.—See *Dikaïomata*.
- P. HAMB.—*Griechische Papyruskunden der Hamburger Stadtbibliothek*, herausgegeben und erklärt von P. M. Meyer, I, 1 and 2, Leipzig, 1911, 1913.
- P. HIB.—*The Hibeh Papyri* edited by B. P. Grenfell and A. Hunt, I, London, 1906.
- P. LILLE.—*Papyrus Grecs publiés sous la direction de P. Jouguet avec la collaboration de P. Collart, J. Lesquier, M. Xoual*, I, Paris, 1907; II (*Papyrus de Magdola*, seconde édition par J. Lesquier), Paris, 1912.
- P. LOND.—*Greek Papyri in the British Museum. Catalogue with Texts*, I, 1893 and II, 1898 edited by F. Kenyon; III, 1907, ed. by H. I. Bell and F. Kenyon; IV, 1910 and V, 1917 ed. by H. I. Bell.
- P. LOND. INV.—unpublished papyri in the British Museum (correspondence of Zenon).
- P. LOUVRE.—*Notices et Extraits des Manuscrits grecs de la Bibliothèque Impériale* v. XVIII par Brunet de Presle, Paris, 1865.
- P. MAGD.—See *P. Lille II*.

- P. MEYER, JURISTISCHE PAPYRI—*Juristische Papyri. Erklärung von Urkunden zur Einführung in die juristische Papyruskunde* von P. M. Meyer, Berlin, 1920.
- P. MICH. INV.—unpublished Papyrus in the Library of the University of Michigan (correspondence of Zenon).
- P. OXYR.—*The Oxyrynchus papyri* parts I-XIV, ed. B. P. Grenfell and A. Hunt. London, 1898-1920.
- P. PARIS.—See *P. Louvre*.
- P. PETRIE—*The Flinders Petrie Papyri, with transcriptions, commentaries and index*, I, II ed. by the Rev. J. P. Mahaffy, Dublin, 1891, 1893; III, ed. by the Rev. J. P. Mahaffy and J. A. Smyly, Dublin, 1905.
- R. L. or REV. LAWS—*Revenue Laws of Ptolemy Philadelphus* ed. by B. P. Grenfell. Oxford. 1896.
- P. RYL.—*Catalogue of the Greek Papyri in the John Rylands Library*, Manchester. Vol. II. ed. by J. de M. Johnson, V. Martin, A. Hunt. Manchester. 1915.
- P. RYL. 8—unpublished Papyrus in the Rylands Library at Manchester (correspondence of Zenon).
- P.S.I.—*Pubblicazioni della Società Italiana per la ricerca dei Papiri Greci e Latini in Egitto. Papiri Greci e Latini*. Firenze vol. IV, V, 1917; VI, 1920.
- P. TEBT.—*The Tebtunis Papyri*, Part I ed. by B. P. Grenfell, A. Hunt, J. A. Smyly, London, 1902; Part II ed. by B. P. Grenfell, A. Hunt, J. Goodspeed, London, 1907.
- P.Z.—*Selected Papyri from the Archives of Zenon* by C. C. Edgar, *Annales du Service des Antiquités de l'Egypte* XVIII, p. 159 ff., 225 ff.; XIX, p. 13 ff., 81 ff.; XX, p. 19 ff., 181 ff.; XXI, p. 89 ff.
- ROSTOWZEW. STUDIEN—*Studien zur Geschichte des Römischen Kolonates* von M. Rostowzew, Erstes Beiheft zum Archiv für Papyrusforschung, Leipzig und Berlin, 1910.
- SCHUBART, EINFÜHRUNG—W. Schubart, *Einführung in die Papyruskunde*, Berlin, 1918.
- WILCKEN CHREST. and WILCKEN GRUNDZ.—L. Mitteis und U. Wilcken, *Grundzüge und Chrestomathie der Papyruskunde* I, 1 (Grundzüge); I, 2 (Chrestomathie), Leipzig, 1912.

## DESCRIPTION OF PLATES

- I. P. Lille 1, recto. Ghoran. Om. 16 cent. xom. 31 cent.  
Year 27. Map and device of the irrigation work on the  
estate of Apollonius—Frontispiece.
- II. P.Z. 22. Philadelphia. Om. 245 mill. xom. 10 cent.  
Year 29. Letter from Zenon to Panakestor—p. 39.
- III. P.Z. 27. Philadelphia. Om. 19 cent. xom. 34 cent.  
Year 30. Letter from Apollonius to Zenon—p. 49.





## I. INTRODUCTORY

Of the Greek papyri from Egypt the Ptolemaic documents form only a small portion, and among them are relatively few of the third century, i. e. of the first period of the Greek domination in Egypt. Most of the Greek documents bought and excavated in Egypt, as is well known, belong to the Roman period, to the first three centuries A.D. Moreover the early Greek papyri of Egypt are mostly fragmentary and in a bad state of preservation, having been extracted for the most part from the cartonnages of mummies found in Greek cemeteries of the Ptolemaic period.<sup>2</sup>

Most of the early Ptolemaic papyri are found in the Fayum. Such are the valuable documents collected by Petrie at Gurob and published by Mahaffy and Smyly in the three volumes of the Petrie Papyri.<sup>3</sup> Another series was collected by Jouguet and Lefebvre in the south-west corner of the Fayum, in the cemeteries near the village of Magdola.<sup>4</sup> In the Fayum probably was found the largest papyrus of the early Ptolemaic time, the νόμοι τελωνικοὶ of Ptolemy Philadelphus, his "Revenue Laws," published by Grenfell.<sup>5</sup> Some interesting early Ptolemaic documents were also extracted from the cemetery of Tebtunis in the southern part of the Fayum and will shortly be published by Grenfell and Hunt in the third volume of the Tebtunis Papyri.

But there are many and valuable documents of the same period which do not belong to the Fayum, e.g. the Dikaionmata of the time of Philadelphus published by the Graeca Halensis,<sup>6</sup>

<sup>1</sup> On the finds of Papyri in general, see the two best introductions to the study of the papyri, L. Mitteis and U. Wilcken, *Grundzüge und Chrestomathie der Papyruskunde* (Leipzig, 1912), and W. Schubart, *Einführung in die Papyruskunde* (Berlin, 1918).

<sup>2</sup> J. P. Mahaffy and J. G. Smyly, *The Flinders Petrie Papyri*, 3 vols. (Dublin, 1891-1905).

<sup>3</sup> P. Jouguet, P. Collart, J. Lesquier, M. Xoual, *Papyrus grecs*, 2 vols. (Paris, 1907-1912); the second volume contains the papyri of Magdola.

<sup>4</sup> B. P. Grenfell, *The Revenue Laws of Ptolemy Philadelphus* (Oxford, 1896).

<sup>5</sup> *Dikaionmata, Auszüge aus Alexandrinischen Gesetzen und Verordnungen*, herausg. von der Graeca Halensis (Berlin, 1913).

the papyri of Elephantine in Upper Egypt published by Rubensohn,<sup>6</sup> and those of Hibeh published by Grenfell and Hunt.<sup>7</sup>

The majority of these papyri are, as I have already pointed out, fragmentary, badly preserved and very difficult to read. But among them we have some large and comparatively well preserved documents of the greatest historical importance; also several series of letters and documents, addressed to the same person, which probably belonged to a larger body of either private or official writings. Among those of the first group I should name the already mentioned Revenue Laws, the Dikaiomata, and an unpublished document of the third century found in Tebtunis, instructions given by the dioeketes (Minister of finances) of Euergetes I to an oekonomus (Secretary of finances) of the Fayum (the Arsinoite nome). To the second group belongs for example the correspondence of the engineers of Ptolemy Philadelphus and of Ptolemy Euergetes, who worked in the Fayum, and created by their efforts the flourishing agricultural district,—the Arsinoite nome, formerly partly desert, partly marshy land. Their names were Kleon and Theodorus. The documents of their archives were found by Petrie at Gurob. Another series of connected documents is the find of Magdola, scores of petitions addressed to the military governor of the Fayum, the strategus. They formed probably for a while a part of the archives of the governor at the capital of the Fayum, Crocodilopolis, and later on were sold to some fabricant of cartonnages who furnished the whole nome with his products. Fragments of such extensive groups are found everywhere among the documents of the early Ptolemaic period, sometimes only two or three letters, sometimes a larger group like some groups of the papyri of Gurob, Hibeh and Elephantine.

The importance of the early Ptolemaic documents is enormous. During the third century B.C. the Ptolemies, especially the two first, Ptolemy Soter (the Saviour) and Philadelphus

<sup>6</sup> O. Rubensohn, *Elephantine Papyri* (Berlin, 1907).

<sup>7</sup> B. Grenfell and A. S. Hunt, *The Hibeh Papyri* (London, 1906); cf. G. Plaummann, *Griechische Papyri der Sammlung Gradenwitz* (*Sitz.-Ber. der Heidelberger Akademie der Wissenschaften*, 1914, Lief. 15).

(loving his sister), carried out a work of first rate importance not only for their own land, Egypt, but for the ancient world in general. In Egypt they met with multisecular traditions, with an organization of the political, social and economic life which had gradually grown out of the special conditions presented by this peculiar land of Egypt. This ancient native organization of Egypt, built up by the most creative dynasties of the Ancient, Middle and New Egypt, was of course shattered by the long years of foreign domination, interrupted by national revolutions and by temporary reestablishments of a national monarchy, changes preceded and followed by years of struggle and of anarchy. Only partial restoration occurred in the periods of comparative quiet, so that Egypt at the time of Alexander and of his Egyptian expedition was no more a flourishing, well organized state as it had been before the Assyrian and Persian conquest. Its agriculture suffered from years and years of irregular work on the banks and canals,—a question of life and death for Egypt; its commerce was almost entirely in the hands of foreigners both Greeks and Phoenicians; its industry was to a great extent monopolized by the temples and by the clergy, dominant in the political, social and economic life of the country.

The first Ptolemies, if they wanted to make Egypt the centre of a mighty State which would be able to compete with such large and rich monarchies as Syria, the heir of the Persian Empire, and Macedon, the new ruler of the Greek world on the mainland, were faced with the necessity both of restoring the economic life of the country and of consolidating it by means of a good, properly organized administration. A mere restoration of the old administration was of course impossible. With the Ptolemies a new element came into the country, the Greeks. They were the conquerors and on their strength was based the might and power of the Ptolemies. They brought with them their own customs and habits, their own needs, and they claimed the right to be or to become the dominant class in Egypt. On the other hand the organization of the native element was far from perfect. Egypt at the time of Alexander's conquest was no more the centralized and highly developed bureaucratic and autocratic state of the Pharaohs of the

Eighteenth Dynasty. Feudal elements during the periods of Assyrian, Babylonian and Persian domination had won one victory after another over the idea of centralization. And Egypt of the fourth century B.C., as far as we can judge, was a land of many almost independent temple and feudal territories ruled by the highest clergy and by some feudal lords for their own profit. Any restoration of order and prosperity in Egypt meant first of all the elimination of these elements.

Thus the task of the Ptolemies was in no way an easy one. And the lines which they would take would be decisive for the whole future of Egypt, both as a separate and independent state and as a member of the then established balance of power in the Mediterranean.

The history of Egypt during the last three centuries B.C. shows that the first Ptolemies did succeed in forming a strong and well organized state. They were dominant in the Hellenistic world for about a century and they preserved their independence against the renewed attacks of Syria and Macedon in the following century. They were the last among the leading Hellenistic powers to succumb to the world domination of Rome, and the last battle fought by the Orient against the Occident was organized and prepared in Alexandria by the common efforts of Antony and Cleopatra. This shows that Egypt during the Hellenistic period had strong vital forces based on a rational exploitation of the resources of the country. It is therefore highly important to know what were the devices by which the Ptolemies restored to Egypt these vital forces which it seemed to have lost irretrievably.

The early Ptolemaic documents enumerated above give a partial answer to this question. They show how systematic and logically progressive was the work of restoration and reformation of the first Ptolemies in Egypt and how lasting were the foundations laid by them in their reforms. The general lines of this work were retained not only by their successors, the Ptolemies of the second and first centuries B.C., but by the Romans as well. Even in the Byzantine and Arabic period some of the remains of this thorough work of the first Ptolemies lived on.

I cannot deal with this subject at length. The reader will find my ideas on this topic explained in my article on Ptolemaic

Egypt in the *Journal of Egyptian Archaeology* and in my book on the Hellenistic world and Rome now in course of publication.<sup>8</sup>

But I must emphasize the fact that if the main lines of the reform work of the Ptolemies may be traced with some degree of accuracy, many and highly important points remain still dark and therefore hotly debated. One of the most important and of the darkest questions is that of the part played in the economic life of Egypt by the Greeks and other foreigners, of the relation of the new-comers to the ancient population of Egypt, of the importance of both elements in the restoration of the economic strength of the new Greco-Egyptian state.

This is just the point which seems to be to a certain degree elucidated by a recent find made in Egypt during the war. I mean the discovery of a new and exceptionally rich series of documents of the third century B.C. made in 1915 at Kharabet el Gerza in the Fayum, the site of the ancient village of Philadelphia. The new find forms a unit. All the Greek papyri which belong to it were filed and docketed by a certain Zenon and formed therefore a part of his correspondence, his private archives. The discovery of these papyri was accidental. The discoverers were Egyptian peasants, fellahin digging for sebakh (the fertilizing earth of the ancient ruins used regularly by the Egyptian peasants for fertilizing their fields).<sup>9</sup>

As usual the whole lot of documents (how many they originally were, nobody knows) was acquired by dealers, specialists in the papyri-trade, was divided by them into many parts and

<sup>8</sup> M. Rostovtzeff, "The Foundations of Social and Economic Life in Egypt in Hellenistic Times," *Journal of Egyptian Archaeology*, VI, 3 (1920), 161 ff.

<sup>9</sup> We have no evidence about the conditions under which the find was made as the dealers were not willing to disclose their source of supply. What is known is related by C. C. Edgar, "On the Dating of Early Ptolemaic Papyri," *Annales du Service des Antiquités de l'Égypte*, XVII (1917) 208; cf. the introductions to his subsequent articles in the *Annales* and the prefaces of Vitelli in P.S.I. (see below, note 10). There is every probability for the belief that the papyri were found in the ruins of the house which formerly belonged to Zenon, probably in the cellars. Another possibility is that they were thrown out of the house at once and were preserved for centuries in one of the heaps of refuses.



these parts were sold to different purchasers, gradually, one lot after another. A large part came through the late Gentili to Florence, another was acquired by the Museum of Cairo which is still buying up one lot after another; two important lots were acquired by the British Museum, and one by the Library in Manchester. One papyrus of the same series came to Hamburg. Some offered for sale to different institutions were not purchased, and may still remain in the hands of the dealers or may have been sold to one or another private collector. It is indeed urgent that everybody who possesses papyri of the correspondence of Zenon should notify the editors of the larger lots and not hide the documents for years and years, as many collectors of papyri sometimes do.

War time was not very favourable for the publication of papyri, nor is the time we are living in any better. Nevertheless the energy of Vitelli and his collaborators in Italy<sup>10</sup> and of Edgar in Cairo<sup>11</sup> has resulted in the publication of most of the best preserved documents of the Italian and Cairo collections, and Bell and Grenfell will do the same for the documents which are now in England. Thanks to the kindness of Bell and Grenfell I have seen their copies of the English part of the Zenon archives and am acquainted with their content. The papyrus which came to Hamburg was published by P. Meyer.<sup>12</sup>

Thus we have already a body of more than three hundred and fifty documents published and partly explained. Many new ones will soon appear in the next volume of the Papyri of the British Museum and in the next articles of Edgar. They will certainly bring to light valuable new information on the

<sup>10</sup> *Pubblicazioni della Società Italiana per la ricerca dei papiri greci e latini in Egitto. Papiri Greci e Latini*, IV, V, and VI (Firenze, 1917, 1920). Quoted as P.S.I. with the number of the papyrus, without the number of the volume.

<sup>11</sup> C. C. Edgar, "Selected Papyri from the Archives of Zenon," *Annales du Service des Ant. de l'Egypte*, XVIII and XIX (pt. I, nos. 1-10, vol. XVIII p. 159 ff.; pt. II, nos. 11-21, vol. XVIII, p. 225 ff.; pt. III, nos. 22-36, vol. XIX, p. 13 ff.; pt. IV, nos. 37-48, vol. XIX, p. 81 ff.). Quoted P. Z. with the number of the papyrus or pt. I, etc., and the page. The papyri from Zenon's archives now in London are quoted by the Inventory number of each.

<sup>12</sup> P. M. Meyer, *Griechische Papyrusurkunden der Hamburger Stadtbibliothek*, 2 parts (Leipzig, 1911 and 1913), no. 27.

affairs of Zenon, some fragments will fit into already published documents and make it easier to understand them. Many questions of chronology and of details will certainly arise from the new evidence. Under such conditions it may seem unwise to deal at present with the correspondence as a whole from the historical point of view, or to try, before the series is complete, to point out its scientific value and its enormous importance for our knowledge of the early Ptolemaic Egypt.

Nevertheless I have decided to take up this question at once and to publish the results of my investigations. My reasons for doing so are as follows. We possess already sufficient evidence for forming a conception of the correspondence as a whole, and the conception which I have formed by means of a close study of the published documents is very much different from that which was formed by the editors of the documents. I should like therefore to make my conception accessible to the editors of the new documents, subject it to their criticism and thus make their work of publishing the new evidence easier, since the reading of the new pieces of evidence and commenting upon them depends very much for its value on the right understanding of the series as a whole. Furthermore I am not afraid of committing mistakes. I should be very glad to correct my statements in the light of any new evidence and to modify my opinions. But for the successful progress of the work of editing and commenting on the new papyri in general it is urgent that the new documents be compared with the old ones and that this new evidence be assigned its place in the already known series of the same time and the same place. We shall see how close is the connection of the Zenon papyri with those of the Petrie lot on the one hand and with the Revenue Laws on the other. It will appear also that many of the Lille papyri explain and are explained in their turn by the Zenon papyri. I therefore do not regard my labor in compiling this article as a waste of time. Science progresses step by step and nobody should be afraid of committing mistakes in dealing with new and unexplained material, assuming that his study of this material is thorough, animated by a sincere desire to find the truth, and founded on a well established general conception.



## II. PHILADELPHIA

The place where the Zenon correspondence was found is well known to the papyrologists and to the dealers in papyri. Philadelphia (Gerza near the modern Rubbayat), like Karanis and Soknopaiu Nesos and some other sites in the Fayum, was one of the first places to be attacked by the seabkh diggers and papyri plunderers in the eighties of the last century. Many papyri in a good state of preservation found in the ruins of Philadelphia were sold in Europe to the Museums of Berlin, London, and Geneva.<sup>13</sup> Most of them are published in the papyri publications of Berlin, London and Geneva. Nobody tried to collect them all and to give a picture of Philadelphia and its economic development. The task is not an easy one as the papyri from Philadelphia are but few in number and only a part of them mention the name of the village. New evidence about the earlier times of Philadelphia was brought by the Petrie papyri and some Lille papyri extracted from the cartonnages of Ptolemaic mummies. Most of the Petrie and the Lille papyri probably belong to the archives of Crocodilopolis, the capital of the Arsinoite nome, and some of them mention Philadelphia among the other villages of the Fayum.

The systematic excavations in the Fayum which were begun by Petrie, developed in the nineties of the last century by Grenfell, Hunt and Hogarth, and later on by the French scholars Jouguet and Lefebvre and by the administration of the Cairo Museum, never touched the site and the ruins of Philadelphia. In 1900 Grenfell and Hunt tried to excavate the necropolis of Philadelphia but soon became discouraged by the bad state of this cemetery which had been repeatedly plundered by the fellahin and papyri dealers.<sup>14</sup> The ruins of the city itself seemed to be entirely exhausted and not worth the expenditure on them of time and money.

<sup>13</sup> Grenfell and Hunt, *Fayum Towns and their Papyri*, Introduction, p. 11; Grenfell and Hunt, *Tebtunis Papyri*, II, 345; *Archaeological Records of the Egypt Exploration Fund*, 1900-1901, p. 6 ff.

<sup>14</sup> Grenfell and Hunt, *Arch. Rep.*, loc. cit.

Nevertheless the activity of the commercial excavators at Philadelphia did not cease. Some papyri from Philadelphia appeared again lately on the market, thus testifying to a renewed activity of the seabakh diggers in Gerza. Some of them were bought by the Library of Hamburg and published recently by P. Meyer, some by Mrs. Rylands. Among the Hamburg lot there was already one of the Zenon papyri. No doubt the Zenon find was one of the results of the activity of papyri robbers.

No wonder therefore if our knowledge of the destinies of Philadelphia is scanty and fragmentary! The name of Philadelphia shows that the village belonged to those which were founded under the second Ptolemy as the result of his work of drainage and irrigation in the marshes and sandy land on the shores of Lake Moeris. Philadelphia was one of the many creations of the Ptolemies in the Fayum. We know how extensive and successful this work of the Ptolemies was. In the list of the villages of the Fayum which already existed there in the early Ptolemaic epoch and which are mentioned in the Greek papyri of the Fayum, the list compiled with great care by Grenfell in P. Tebt. II, there are found 114 names of larger and smaller settlements (I take the villages only and leave aside the smaller places: *τόποι, ἐποίκια, χωρία* etc.). Of these 114 villages 66 have Greek names and only 48 Egyptian. But even the villages with Egyptian names are in no way altogether pre-Ptolemaic. Most of them as well as the villages with Greek names are creations of the Ptolemies. It is shown by the fact that many, perhaps most of them, bear the same names as some larger and smaller cities in the Delta and in Middle Egypt. In the Fayum as in the United States of America, another great land of colonization, we meet with village after village homonymous to celebrated cities, in this case cities of Lower and Middle Egypt with their partly Hellenized, partly native names: *Ἀπόλλωνος πόλις κώμη, Ἑρμοῦ πόλις κώμη, Ἡλίου πόλις κώμη, Κυνῶν πόλις κώμη, Λητοῦς πόλις κώμη, Μέμφις κώμη, Νείλου πόλις κώμη* on the one hand and *Ἀθρήβις, Βούβαστος, Βουσῆρις, Μένδης, Ὁξύρυγχα, Σεβεννῦτος, Τάνις, Φαρβαῖθος*, etc., on the other. No doubt these names recall the names of the places whence the new settlers came to the Fayum, perhaps of the nomes to which they

formerly belonged, as the recorded names are names of the capitals of the nomes of the Delta and of Middle Egypt. Other purely Egyptian names of the villages of the Fayum may have been borrowed in the same way from other less conspicuous places of Egypt. But this point requires further investigation. The only difference between the settlements with Greek and those with Egyptian names is probably this, that the former had a Greek majority among the new settlers, the latter an Egyptian one, i. e., that the former were mostly settlements of Greek soldiers, the latter of Egyptian crown-peasants, the βασιλικοὶ γεωργοί. We shall retain this fact as one which is very characteristic of the history of the colonization of the Fayum of which I shall speak more fully later on.

Among the new settlements in the Fayum with Greek and native names Philadelphia occupies a rather exceptional position. It belongs to the small class of Greek settlements with names derived from the names of the rulers of Egypt,—the Ptolemies. It seems strange that in a region settled mostly by mercenary soldiers dynastic names form rather an exception. But the fact in itself is beyond any doubt. In the whole Fayum we have only fourteen κῶμαι with dynastic names out of 66 with Greek names, namely two Βερενικίς, two Ἀρσινόη, one Εὐεργετίς, one Θεαδέλφεια, five Πτολεμαίς, one Φιλωτερίς, one Φιλοπάτωρ and one Φιλαδέλφεια. Much more usual is it to give to the villages names derived either from the names of some gods (e. g., Βακχιάς, Ἡφαιστιάς—disguised Egyptian gods?) or from the names of persons not connected with the royal house, some of whom seem to have belonged to the class of higher officials of Egypt in general and the Fayum in particular. It is very likely, e. g., that Ἀπολλωνιάς was named after the dioeketes Apollonius, the Θεογένους κώμη after the dioeketes of Euergetes I, Μητροδώρου κώμη after the oeconomus of the Fayum of the same time, and some other κῶμαι after the νομάρχαι of the Fayum. We shall come back to this special point later on.

The rarity of the dynastic names can be explained only by the supposition that it was not free to the new settlers to take a dynastic name without special permission and that a dynastic name implied a kind of patronage of the King and the Queen, perhaps even the institution of a royal cult by the settlers.

We shall see later on that such special connection with the royal house very probably existed in the case of Philadelphia.

Beside the mere fact of its foundation under Ptolemy Philadelphus we knew very little about the early history of Philadelphia before the discovery of Zenon's correspondence. Some Petrie papyri testify that important works were carried out in the neighborhood of Philadelphia by the royal engineers Kleon and Theodorus,<sup>15</sup> that the place was surrounded by settlements with Egyptian names, probably colonies inhabited by royal peasants as they bear names derived from some famous places in the Delta: Bubastus, Tanis, Patsonthis,<sup>16</sup> and that it soon became an important centre of wine production.<sup>17</sup> Under Euergetes I Philadelphia was the *chef-lieu* of a toparchy, the residence of a toparch.<sup>18</sup> Under Philopator we meet with a wholesale merchant, resident in Philadelphia who has a large herd of sheep.<sup>19</sup> At the same time it had a comparatively large population of soldiers serving in the cavalry.<sup>20</sup> Comparatively large sums paid by the inhabitants of Philadelphia for the tax on internal commerce (ἐπώνιον)<sup>21</sup> and for the tax on νῆτρον<sup>22</sup> may allow us to suppose that the community was thriving and had developed a certain amount of commercial and industrial activity (the weaving industry, for example, the νῆτρον being used for washing cloth).

The Roman documents add but few new features to this meagre picture. Under the Roman emperors Philadelphia still remained an important centre of vintage and gardening. The culture of olive trees seemed to prosper there, as we hear often of ἐλαιῶνες and ἐλαιωνοπαράδεισοι and palm plantations

<sup>15</sup> P. Petrie II, 4, 4-III, 42, 6, irrigation of the region ἀπὸ Φιλαδελφείας ἕως Πατσώνθως.

<sup>16</sup> P. Petrie II, 46 (b)-III, 57 (a) and (b); III, 105; 117 (j); 117 (k); II, 28-III, 66 (a).

<sup>17</sup> P. Petrie II, 46 (b)-III, 57 (a) and (b).

<sup>18</sup> P. Lille 3, col. IV, l. 73.

<sup>19</sup> B. G. U. 1012 (170 B. C.?).

<sup>20</sup> P. Petrie III, 105.

<sup>21</sup> P. Petrie III, 117 (j): ἐπώνιον is the tax on the sale of products in the market.

<sup>22</sup> P. Petrie III, 117 (k).

owned by the inhabitants of the village.<sup>23</sup> Pasture land and cattle breeding seem to have played an important part in the economic life of the settlement.<sup>24</sup>

Along with Karanis, Bacchias and Soknopaiu Nesos and other localities situated on the verge of the desert and connected with Memphis by a caravan road, Philadelphia was one of the places where custom-duties on import and export were levied by the finance administration of Egypt. But the scanty amount of custom-duties receipts discovered at Philadelphia in comparison with those discovered at Soknopaiu Nesos show that Philadelphia was not situated on the main road of traffic.<sup>25</sup> It is possible to infer from one of the Zenon papyri that this customs station at Philadelphia was created as early as the foundation of the village itself (see P. Z. 46, year 35 of Philadelphus, cf. *ibid.*, V, p. 21).

A peculiar feature in the history of Philadelphia, as was shown recently by the Hamburg and Ryland papyri, part of which belong to the first century A. D. (most of the Roman papyri belong to a later epoch—the third and fourth centuries A. D.), is the fact that a large part of the territory of this village after the Roman conquest came into the hands of large landowners either members of the family or favorites of Augustus and his successors. The large estates (οὔσιαι) e. g. those of Germanicus, Maecenas and Seneca, included large parcels of land in the territory of Philadelphia. All this land was confiscated by Vespasian and formed a special class of the state or imperial land in general (γῆ οὔσιακή) exploited by a special class of crown peasants, the γεωργοὶ οὔσιακοί.<sup>26</sup>

<sup>23</sup> See, e. g., P. Hamb. 5 (89 A. D.); B. G. U. 603, 14 (168 A. D.), cf. 604; P. Lond. III, p. 69 and p. 44 e (173 A. D.); P. Hamb. 40-53 (213-219 A. D.). These plantations still existed in the fourth century A. D., B. G. U., 519, l. 13; 456; 1049, cf. 1022 which testifies to the existence of oil factories in Philadelphia.

<sup>24</sup> P. Hamb. 40-53 (213-219 A. D.).

<sup>25</sup> See Wilcken, *Grundzüge*, p. 191.

<sup>26</sup> P. Hamb. 3 (74 A. D.); P. Ryl. II, 383 (second century A. D.); P. Gen. 42, 16 (224 A. D.): βασιλικοὶ καὶ οὔσιακοὶ καὶ προσοδικοὶ [γεωργοὶ] κώμης Φιλαδελφείας. Cf. M. Rostowzew, *Studien zur Geschichte des Römischen Kolonats* (Leipzig, 1910) pp. 119 ff., 218.



Along with this class of crown peasants other parts of the Philadelphian land were farmed by δημόσιοι and βασιλικοὶ γεωργοί, a fact which testifies that an important part of the territory remained in the hands of the state and was rented by the state directly. But along with this state land the same territory included many parcels, mostly vineyards and gardens, owned by private persons among whom we notice some descendants of the Ptolemaic military settlers and many Roman veterans, the latter mostly well to do landowners.<sup>27</sup>

Like most of the villages of the Fayum, especially those which were situated on the border of the desert, Philadelphia did not prosper for very long. A constant and progressive decay of the economic life is felt in Philadelphia as in many other villages of the Fayum as early as the second century A. D. It is explained probably by the negligence of the administration to maintain the dikes and canals in good order and by gradual impoverishment of the population overburdened by taxes and liturgies, a process which is characteristic of most of the cities and villages in Egypt from the second century A. D. onwards. This process has been repeatedly described and explained by myself and other scholars.<sup>28</sup>

<sup>27</sup> P. Hamb. 5 (89 A. D.) and 40-53 (213-219 A. D.); the last group of documents forms a splendid parallel to the documents which were investigated by W. Westermann in his excellent article, "An Egyptian Farmer," *University of Wisconsin Studies, Language and Literature*, no. 3, p. 171 ff. The papyri Rylands also brought out a large amount of material which characterizes the agricultural activity of the Roman veterans in the Fayum. One of the most interesting documents, a register of taxes on land, late first century A. D., deals with the territory of Philadelphia and the neighboring villages Tanis and Hephaestias, P. Ryl. II, 202, cf. 386 (second century). The land owned by the veterans belonged mostly to the class of catoeic and cleruchic land and thus was formerly owned by the soldiers of the Ptolemaic army who were deprived of their property for the sake of the Roman veterans. But there are also Greek names in the register mentioned above (cf. P. Ryl. 188), probably those of the descendants of the catoeici and cleruchi of the Ptolemaic period. It is noteworthy that the famous letter of Apion (B. G. U. 423; Wilcken, *Chrest.*, p. 480) was found at Philadelphia. The whole question of veterans as landowners should be investigated anew, even after the treatment of this question by Lesquier, *L'armée romaine d'Égypte* (Paris, 1919). The Greek, and later the Roman character of the population seems thus to be a feature of Philadelphia all through the seven centuries of its existence.

<sup>28</sup> Rostowzew, *Studien*, p. 206 ff.

For Philadelphia this fact is well illustrated by one of the Hamburg papyri of 160 A. D. (no. 35). It is a petition to the governor of the nome from three men and their associates who were entrusted by the governor to *προσταθῆναι κώμης Φιλαδελφείας*. These are their complaints: "Inasmuch as the arrears of this village are big and we need help bitterly, and most of the heads of the village neglect their duty of collecting taxes, especially the field-guards, we beg you to make an inquiry into the matter and to order a more careful collection of them."

In the third century the situation becomes alarming. The amount of dry land increases steadily. In the fourth century the ruin is almost complete, as is shown by some Geneva papyri which mention a special class of land entirely unproductive booked by the officials under the heading of *ἄπορον* or *ἀπόρων ὀνομάτων*,—entirely unproductive land.<sup>29</sup> Very soon the place became completely depopulated and was never settled again. No papyri later than the fourth century A. D. were discovered at Philadelphia. At this time the village was abandoned by its inhabitants and became again a part of the sandy desert as it was before the time of the first Ptolemies and as it remained to the time of the discovery of its papyri by the seabakh diggers.

Such are the scanty data which we possess on the history of Philadelphia. And we must say that in this respect Philadelphia is not an exception. The history of most of the places in the Fayum is the same as far as we know it. And yet this poor picture does not correspond to the truth. Philadelphia had its time of feverish activity, of great plans and projects, of interesting attempts. The accidental discovery of the correspondence of Zenon illuminates this epoch with many minute details and enables us to follow the destinies of this typical place from the very beginning of its development. It is a fascinating study to follow these destinies. It is of course local history, history of a small place which never was connected with the great historical events; but how much light it throws on many historical questions of first importance; how many new data it gives for our appreciation of the Hellenistic period in general;

<sup>29</sup> P. Gen. 66, 67, 69, 70; Wilcken, *Chrest.*, 380, 381. I follow Wilcken in his explanation of the term *ἄπορα ὀνόματα*, cf. *Nachträge*, p. VII.



and how instructive it is for our conception of the ancient world in general!

But before we take up this subject let me deal first with Zenon, with his career and his relations to the many persons with whom he was connected.

### III. ZENON AND APOLLONIUS

#### THE TWO EARLIEST PERIODS IN THE ACTIVITY OF ZENON

The archives of Zenon were found at Philadelphia. But many of the letters kept by Zenon in his archives were not addressed to him in the Fayum. The dates, addresses, dockets and contents of many letters show that they were written before Zenon settled down at Philadelphia (the second half of the year 29 of Philadelphus), at a period when he resided partly in Alexandria, partly in the Syrian provinces of the Ptolemies. It is evident that he brought these letters with him to Philadelphia and kept them in his archives for one reason or another.

This fact explains the paucity of our evidence about Zenon and his affairs before his activity in Philadelphia. Zenon travelled very much during the first periods of his life. No wonder if during these travels he did not keep all the letters which he received. Most of them naturally disappeared and what remained were not always the most important. Such is the impression left on us by the remains of the correspondence of Zenon before his coming to Philadelphia. The further we go back from this date the scantier the remains. We can hardly expect that this impression would be very much modified by the publication of the other parts of Zenon's archives. Zenon might have kept his archives in order; it is even possible that the letters were found arranged according to some system. But the order in which the letters fell into the hands of the different purchasers shows that this order was not observed by the diggers, that in selling the documents the dealers mixed them up hopelessly.

A mere glance at the correspondence of Zenon shows that during all the time of his active intercourse with his correspondents he was in close and uninterrupted relations with his chief, Apollonius the dioeketes of King Ptolemy II Philadelphus, i.e., the manager in the name of the king of the economic life of Egypt. Before the discovery of Zenon's papyri we knew but little of Apollonius and his career. He was first mentioned in the year 27 of Ptolemy Philadelphus, and the

last mention of his name belonged to the year 34. Zenon's correspondence allows us to define more accurately both the time of his appointment to the duty of dioeketes and the time when he left this office.<sup>30</sup>

P.S.I. 324 and 325 (cf. 322 note 1) show that Apollonius was already dioeketes in the year 25 of Philadelphus. On the other hand in the R.L. of Philadelphus which were published in the year 27 probably by Apollonius, we have in the section on the apomoira as an appendix to the πρόγραμμα and διάγραμμα of this year, two earlier documents dated in the year 23 by which two declarations preliminary to the collection of apomoira were prescribed: an inventory of the persons who had already paid a part of their yield of the vineyards and gardens to the temples, and an inventory of all the vineyards and gardens. These inventories were ordered to be delivered to those "who work under Satyrus" (τοῖς παρὰ Σατύρου πραγματευομένοις), and the first one moreover "to the accountants who work under Dionysodorus" (τοῖς παρὰ Διονυσοδώρου τεταγμένοις ἐγλογισταῖς, R.L. col. 36, 10 and 37, 11-12). From P.Z. 44 (year 34) we know that Dionysodorus was in this year the chief subordinate of Apollonius (cf. P.Z. 14, 8, year 29), the chief eglogist in Alexandria. There is no doubt therefore that Satyrus and not Apollonius was dioeketes in the year 23. As in the year 25 Apollonius was already dioeketes, it is clear that he was appointed to this office between the two dates, probably in the year 24.

When did he leave this office? He was still dioeketes in the last year of Philadelphus (P.S.I. 383), but no longer in the first years of Euergetes. This I deduce from P. Petrie II, 42a—III, 43, 1. This document is a notification by the author of the document to all the officials of the Fayum telling them that

<sup>30</sup> Almost nothing has been written on Apollonius. His name does not appear in the Indices of Wilcken's and Schubart's introductions to papyrology. Even the careful book of Bouché-Leclercq, *Histoire des Lagides* (Paris 1903-1907), mentions his name only once (vol. III, p. 266 cf. III p. 381, note 2 and IV p. 342) in speaking of the Revenue Laws. The papyri where Apollonius is mentioned have been quoted by many scholars but mostly in the notes; he seemed unworthy of mention in the text. See, e. g., Preisigke, *Klio*, VII, p. 241, note; P. Hib. 44, note 3; *Dikaionoma*, p. 260; P.S.I. 383, note 12 (Vitelli).

instead of Kleon, Theodorus had been appointed by him chief engineer of the nome. Kleon occupied in the nome a very high position and was subordinate to the dioeketes only, by whom he was appointed, if not by the King himself. Now the document in question was sent out not by Apollonius, who was still dioeketes in the last year of Philadelphus, but by Kleandrus, no doubt the dioeketes at the time when the letter was written. The letter of course is not dated. But many documents show (P. Petrie III, 43, 2 ff.) that in the second year of Euergetes Theodorus is the acting chief engineer of the Fayum.<sup>31</sup> Thus he was appointed not later than in the second year of Euergetes, probably in his first year. It is only natural that the new King wanted to have a new manager of his finances, a man personally devoted to him. We may find a corroboration of this hypothesis of mine in P. Petrie III, 53,—a badly preserved private letter. This letter twice mentions the King, once a man called Diotimus, who, as we know, was one of the local dioeketae under Apollonius and remained hypodioeketes under Euergetes for some time (see Appendix I), and once a man of the name of Kleandrus. With Diotimus the writer of the letter was on good terms, but Kleandrus is named in a connotation which seems to imply a different attitude of our man towards him although the passage is unfortunately very fragmentary. The author of the letter is in great anxiety. His main fear is to lose

<sup>31</sup> P. Lond. Inv. 2089 shows that Theodorus fulfilled the duties of chief engineer of the Arsinoite as early as the year 36 of Philadelphus. In his letter to 'A.[ . . .]μίας he asked for a salary not less than the salary received by Kleon and promised in this case to do everything possible for the dioeketes and for the man to whom the letter is addressed. If therefore he was appointed as early as the year 36 as the chief engineer of the Arsinoite, the letter of Kleandrus was written for the purpose of reappointing him, after Kleandrus had taken the office of Apollonius; or rather for the purpose of informing the officials of the nome that Theodorus had been maintained by him in his commission of the chief engineer of the nome. But it is possible also that Theodorus' commission in the year 36 was only that of a sub-engineer. In this case the letter (P. Lond. Inv. 2089) shows that as such he claimed a salary from the estate of Apollonius equivalent to what was given to Kleon, probably in a private way, as a kind of bribe. Theodorus may have received the special commission to care for the dykes which were built in the estate of Apollonius. Be that as it may, the new document changes nothing in my statement about the career of Apollonius.

his κτῆμα. Was he not one of the higher officials, a subordinate of Kleandrus and Diotimus who has lost his commission contemporaneously with Apollonius?

We may safely assume therefore that Apollonius who was appointed about the year 24 remained in the office as long as the rule and life of Philadelphus lasted, enjoying during his time the full confidence of his King and being his chief collaborator for some 15 years. Under Euergetes the conditions were different. In the year 5 the post of the dioeketes is occupied no longer by Kleandrus but by Theogenes (P. Petrie II, 38 (b)—III, 53 (e); cf. P. Lille 4, 5; P.S.I. VI, p. 70, note 1), in the year 10 the dioeketes is Eutychus (P. Petrie II, 15, 2; III, 43, 7, cf. Hib. 133), in the year 18, Chrysippus (P. Petrie III, 5 (l and m), cf. P. Grenfell II, 14 (b) 2) and our information is probably far from complete. It is possible that in these few years there were more than three dioeketae. This comparison between the two reigns, that of Philadelphus and that of Euergetes, is noteworthy since it shows the great influence of Apollonius with the King and their close friendship.<sup>32</sup> In the letter of Philon to Zenon of the year 34 (P.Z. 44) there is of course a remark which could let us suppose that temporarily at least Apollonius had lost his appointment. Philon adds to his letter "you must know that Apollonius took over all the matters in Alexandria and that Dionysodorus acts as the eglogistes," but this postscript implies no more than a temporary but long absence of both the individuals mentioned from Alexandria during which time somebody else acted as dioeketes and eglogistes.

Of the nature of the previous activity of Apollonius, we are ignorant. But we may safely suppose that if he was in the service of Philadelphus before he was appointed dioeketes and was not invited by Philadelphus from abroad (we know of many Athenian refugees in the service of Philadelphus occupying influential positions, see Ferguson, *Hellenistic Athens*, 188, note 1, cf. 197 and Edgar, P.Z. VII, p. 91, note 1), he prob-

<sup>32</sup> This influence is illustrated by the last section of the *Dikaionmata*, l. 158 ff., p. 260 ff.,—a letter of Apollonius to Zoilus about the privilege of not being subject to the salt tax, (ἀλική), granted to some persons of liberal professions. The tone of the letter is noteworthy. It seems as if it is not Apollonius but the King who speaks.

ably served in the Ptolemaic army. At that time there was no sharp distinction between the military and civil career and the staff of the king bore an almost purely military character, just as in the time of the early Roman principate which was as personal and as military as was the Hellenistic kingship of the first two generations. The only difference was that the "house" or the "court," to use either the Greek or the Oriental word for it, of the Hellenistic kings was never filled to such an extent with slaves and freedmen, as was that of the early principes, heirs in this respect of the Republican magnates with their husbandry based on slavery.

One word more about the circumstances in which the career of Apollonius ended. New light is thrown on this question by an interesting letter of Zenon's correspondence (P. Lond. Inv. 2087, no date). A certain Sosicrates (cf. P.S.I. 614) writes to Zenon and gives him the order to arrest the slaves who formerly belonged to the ex-dioeketes Apollonius and now belong to a certain Paideas (1. 2: τῶν πρότερον ὄντων Ἀπολλωνίου τοῦ [ἰδιοῦ] γενομένου διοικητοῦ νῦν δ' ὄντων Παιδέου). There are four slaves: Pindarus from Lycia, and Philonides, alias Beltenuris, and moreover two who formerly belonged to Alexander, who had been a hostage probably at Alexandria. This singular order, its appearance of haste, the fact that the writer cancelled τοῦ διοικητοῦ and wrote instead τοῦ γενομένου διοικητοῦ, that Zenon is still in Philadelphia managing the estate, furthermore that many slaves of Apollonius having fled from Alexandria are supposed to be in Philadelphia,—all this taken together shows that a catastrophe happened in the household of Apollonius at Alexandria after his dismissal. I can explain it in one way only: that Apollonius was not only dismissed but that his property was confiscated and some of his slaves came into the hands of Paideas, four of whom used this opportunity for escaping. The official and perhaps the physical life of Apollonius ended therefore with a catastrophe, King Euergetes having deprived him of his commission and his fortune.

Interesting also is the mention in the same document of some slaves who had come into the hands of Apollonius from the property of a certain Alexander residing at Alexandria as a hostage. A hostage who possessed many slaves,—one a Baby-



lonian, a bath-rubber by profession, another a Median coachman, could not be an ordinary man. He must have been a great personage, probably of royal origin. I would suggest that the man in question was Alexander, the son of Lysimachus and his Odrysian wife; after the death of Lysimachus he remained in Asia (see App. Syr. 64; Bouché-Leclercq, *Histoire des Lagides*, I, 149, 4). It has always been a puzzle to me how this man could remain quiet in the troubled times after the death of Lysimachus and after the seizure of power by Ptolemaeus Keraunus. We may now suppose that Ptolemaeus Keraunus seized Alexander and having concluded an arrangement with Philadelphus delivered Alexander to him. Alexander was then kept at Alexandria as a hostage in the same way as Demetrius Poliorketes had been kept in Syria. Philadelphus had an interest in having the man in his power, first to secure the throne of Asia and Macedon for Keraunus, thus eliminating a rival to Euergetes, and secondly as a good weapon against Keraunus. Alexander probably died very soon at Alexandria when his possessions came into the hands of Philadelphus and his courtiers.

For an understanding of the correspondence of Zenon, his position, the affairs which he managed and his personal relations with the dioeketes it is necessary to have a clear notion of what the office of the dioeketes was. As the word "dioeketes" shows, this official was the manager of the economic affairs of the king and therefore of the kingdom. We must not forget that the rule of the Hellenistic Kings was a purely personal one. They were not appointed by anybody nor even elected by the population. As generals of Alexander they were his satraps and they retained their satrapies because of their military strength and their personal influence on the troops, the deification coming much later. This personal régime brought with it as a logical consequence the idea that the kingdom as such was the personal property of the Kings, acquired by force of arms. This idea was almost exactly identical with the idea prevailing in Egypt as regards the relations between State and King with this as the only difference: the Egyptian royalty was based on religious ideas and had a religious legitimation which of course the Hellenistic Kings were forced to borrow from their predecessors. Egypt was thus the private property of the Ptole-

mies, their estate, so to say, and the dioeketes was the manager of this estate.

In the close collaboration of the King and his minister it is not easy to make out what belongs to the King and what to his minister, as everything which touched the economic management of the State passed through the hands of the dioeketes. For understanding therefore the atmosphere in which both Apollonius and Zenon lived and worked we must first realize the purely personal character of the office held by Apollonius, and on the other hand the leading ideas of the King on the economic management of his lands. It is not an easy task to grasp these leading ideas, our information being scanty and fragmentary. Moreover we have more or less good information only for the second half of the reign of Philadelphus and almost none for the first half, not to speak of the times of Soter and Alexander. It is a striking phenomenon that the Greek papyri of the early Ptolemaic time rarely belong to the first 50 or 60 years of the Greek domination. Is this phenomenon accidental? Should we not deduce from this very fact that the Greek bureaucracy whose activity created the Greek archives of the Ptolemies all over the country was itself a creation of the second Ptolemy?

The facts agree perfectly with this assumption. There is every reason to assume that Soter, and Philadelphus in his early years, were rather generals of the late Alexander than kings of Egypt. Both were entirely absorbed in the affairs of Alexander's world-state and took active part in the conduct of world affairs. Of course Soter was the first to claim for himself an independent position in his satrapy, which was Egypt, but nevertheless he never dissociated himself entirely from the affairs of the other generals. The policy of Philadelphus, based on securing for Egypt the vital conditions of the existence of Egypt as a self-sufficient, strong state,<sup>33</sup> was not free from imperialistic tendencies. The Syrian war and the first failures of Ptolemy

<sup>33</sup> See my remarks in the *Journal of Eg. Arch.*, VI, 3 (1920), p. 172. In these remarks I have emphasized too strongly the non-imperialistic ideas of the first Ptolemies. The first Ptolemies certainly had no intention of creating a world State; nevertheless Philadelphus, and after him Euergetes, pursued an imperialistic policy aiming at hegemony on the sea, which of course was a vital question for Egypt.

Philadelphus in carrying out his imperialistic program obliged Philadelphus to realize for the first time that his safety depended completely on Egypt and that his first task was to consolidate the foundation of his power, i.e., to organize Egypt as firmly and as consistently as possible. Hence his energetic activity in Egypt after the first Syrian war and the minute elaboration of the peculiar economic and administrative system characteristic of his time. I do not mean that the main leading ideas were all his, that Alexander and Soter had not previously traced the main outlines, but I am convinced that Philadelphus was the man who shaped these ideas into the Greco-Egyptian forms which permeated the whole administration as we know it from the papyri of his later years. I shall speak of this organization of his later on, in my last chapter, but I wish here to emphasize the point that the fifteen years of Apollonius' term of office were a time of strenuous work, of energetic activity on partly new lines, the main result being the Hellenization of the Egyptian administrative and economic life as far as the outward forms were concerned. The substance of course could not, and was not intended to be changed or even hellenized.

Such then, was the spirit of the time and the atmosphere in which Apollonius, and with him Zenon, worked for fifteen years. Let me now return to the correspondence of Zenon.

For the period of the life of Zenon before the year 25 of Philadelphus we have almost no evidence. The earliest document of the archives of Zenon dates from the year 12 of Philadelphus and is preserved in two copies (P.S.I. 321 and P.Z. 1). This document, a loan contract which does not even mention Zenon, presents no evidence on his affairs and may have come into the hands of Zenon subsequently (cf. P.S.I. VI, p. IX). More interesting is the second earliest document,—a letter addressed to Zenon by a certain Horus, which mentions the year 13 and is dated by Vitelli in the year 14 of Philadelphus (P.S.I. 551); the letter of course may be of a much later date. Horus describes his interviews and his talks with the King concerning a vineyard of his own. One of these interviews took place on a silverpooped light ship (*ἡμιόλιον*) of the King,—by the way a good illustration of the well known description of the wealth of Philadelphus given by Appian (Prooem. 10),

where Appian mentions 800 gold-prowed and gold-pooped cabinships used by Philadelphus for his travels. For the biography of Zenon the letter has some interest as it shows that Zenon was already a member of the court circle; whether or not he was connected with Apollonius at this time will probably be shown by papyri not yet published.

The second period in the life of Zenon begins with the year 25 and lasts through the years 26 and 27. The evidence is fuller but still scanty. For the first time we get information about the personal position of Zenon. He was a Carian Greek, citizen of Kaunos, the son of Agreophon (P.Z. 3, comp. P. Lond. Inv. 2092). Through his wife he had connections in the city of Kalynda. His brother Epharmostus was also in Egypt (P.S.I. 331). Zenon had children: one son, Kleon, is known to us from some letters. Zenon was therefore a resident of one of the foreign provinces of the Ptolemies and of course tried to place as many of his relatives and compatriots as he could in the service of the Ptolemies. It would be of great interest to know what was the mother-country of Apollonius himself.<sup>34</sup>

One of the letters of the year 26 (P.Z. 2) shows Zenon already in relations with Apollonius, and through a letter of the year 27 we ascertain his semi-official title: he is τῶν περὶ Ἀπολλωνίου or ὁ παρ' Ἀπολλωνίου (P.Z. 3), one of the agents of Apollonius. Such titles are very common in the Greek papyri of this time and denote merely a subordinate position in general: one may be ὁ παρ' οἰκονόμου or νομάρχου or even one of the agents of a less conspicuous official as well as one of the agents of Apollonius. The title moreover does not imply a position in the service of the State.

The contents of the letters of this period first show us Zenon on his way to Syria and then in Syria and Palestine. Two documents of the year 25 (P.S.I. 324, 325), which are not addressed to Zenon, deal with grain trade and are written by Apollonius. The letters contain orders from Apollonius to two different persons to make certain merchants who export grain from Syria pay to the bank either the full price of the grain or

<sup>34</sup> On Zenon and his family relations see Edgar, pt. I, p. 160. Edgar quotes some unpublished papyri testifying to Zenon's relations with Kalynda.

a part of the sum as a pledge. We may suppose that the two letters of Apollonius were intended to be handed over in Syria to the addressees, were given to Zenon to carry with him to Syria and were never delivered: they have no dockets testifying reception. We may suppose therefore that in the year 25 Zenon was on his way to Syria. In the year 26 he is already somewhere in Syria or in Palestine. The only published letter of this year (P.Z. 2), is the already mentioned first letter of Apollonius to him informing him of the sending of two persons to Syria and ordering him to prepare a ship for them and to pay them their salaries.

More evidence exists from the following year. One letter, (P.S.I. 327), deals with some goods which were sent from Syria to Palestine for Apollonius, and contains the valuation thereof, probably for the custom-house. Some documents of this year carry us to Palestine. One, (P.Z. 3), is a contract of sale. Zenon bought at BIRTHA in the Ammanitis from a soldier of the cavalry corps of Tubias a girl-slave of 7 years of the name Sphragis. We shall meet the same Tubias later. He was probably an influential native sheikh entrusted by Ptolemy with the command of an Egyptian cavalry regiment. Another letter of the same year, (P.Z. 4), speaks again of private affairs of Zenon and his staff. A certain Straton, one of Zenon's staff (*ὁ παρὰ Ζήνωνος*), tries to get back some money lent by him or by Zenon to a native of an Ammanitis village by name Jeddus (probably an influential sheikh again). The attempt this time was unsuccessful; Straton, in spite of his military escort and a letter from Zenon, was ejected from the village with violence.

Finally in the last letter of this period, (P.S.I. 406), which bears no date but refers to the same locality and must be dated in the same year, we meet some individuals of less importance but turbulent and wicked indeed. They are coachmen (*συνωρισταί*) and grooms (*ἵπποκόμοι*) who either belong to the army or to a special corps of men buying up horses in the prairie land of the Ammanitis for the supply of the Ptolemaic army. The document is fragmentary and written in bad Greek, but we see how undisciplined and greedy this class of people were and how badly they behaved in the conquered land. They drink, buy and probably steal girls, violate them and disappear with



them and with the beasts in their care. Zenon seems to be their chief and to him is addressed this complaint of the foreman of these robbers, Herakleides.<sup>35</sup>

It is not an easy task to form a judgment about the duties which Zenon performed in Syria and Palestine. Does he belong to the regular administration of the province? Is he acting as an envoy of Apollonius the dioeketes or as the private agent of the same dioeketes? We may assume both, but we have no proofs for either of these assumptions.<sup>36</sup> The Syrian

<sup>35</sup> On this letter see Wilcken, *Arch.*, VI, 393, 449; cf. P.S.I. 616. Wilcken assumes that the two robbers were agents of Zenon hunting for slaves. But this buying and stealing of slaves is just what Herakleides, the chief of the robbers, objects to. Herakleides did not lend them a carriage with two horses: he does not speak of such a loan in his letter but exclusively of κτήνη, horses, which were neglected by the two scoundrels, and of a donkey and a wild ass which were sold by them. This implies that the two men were keepers of κτήνη and not professional slave buyers. We shall see later on that importation of slaves into Egypt from Syria was not allowed by the government.

<sup>36</sup> Almost nothing is known about the organization of the Ptolemaic administration in Syria, Phoenicia and Palestine. See D. Cohen, *De magistratibus Aegyptiis externas Lagidarum regni provincias administrantibus* (Hagae 1912), p. 98 ff. Therefore all the more important are the letters of the correspondence of Zenon. They seem to show that no regular financial administration of the country was sent to the district of Ammanitis from Egypt. The Ammanitis seemed to have been ruled by native chiefs. The same is shown for Palestine by the well known story of the ruler of Palestine, Josephus. Josephus probably received Palestine from King Euergetes I or from Philopator as a kind of δωρεά, with the obligation to pay to the King a kind of tribute, just as the nephew of Euergetes—Ptolemy the son of Lysimachus, received from him Telmessus in Lycia (see below p. 45 ff. notes 50, 51). This kind of financial autonomy does not exclude military occupation of the land by the Ptolemies. But even in this respect the Ammanitis seems to have enjoyed a kind of autonomy, as is shown by the fact that the sheikh Tubias held a military command of Egyptian troops. The system of the Ptolemies in ruling the cities and lands on the seashores was probably different. The Ptolemies certainly drew a regular income from the custom-duties of these ancient commercial cities. I cannot understand the attitude of Cohen towards the story told by Flavius Josephus. If some farms (ὠναι) of special revenues were sold in the provinces of Asia Minor and Thrace it does not imply that Palestine could not be handled in a different way and its revenues sold *en bloc* in Alexandria to the representatives of the country itself. It may be that along with this general farming of the revenues separate ὠναι of special



grain bought by the merchants might have been State grain or the private property of Apollonius. The horses might have belonged to the army but might have been bought by Apollonius for sale afterwards to the State. We shall see that the documents of the following period rather speak for the hypothesis that Zenon had no official commission in Syria and Palestine but was a private agent of Apollonius. But we must not insist upon this distinction for there is no definite line between private and public in the Ptolemaic administration, where the King dealt with the State as with his private estate; his subordinates of the higher ranks hardly drew a sharp line between their private affairs and the affairs entrusted to them by the King. We meet with the same confusion in the early Roman Empire. What status had the procurators of Augustus, οἱ παρὰ Αὐγούστου? Of course they were usually his private agents but in the senatorial provinces they had probably more importance than the proconsuls.

Probably in the same year 27 Zenon came back to Egypt. A letter of Apollonius of this year speaks of sending a ship to Gaza for him to bring him back to Egypt (P.S.I. 322, comp. P.S.I. VI, p. X). The date of this letter is not preserved, but I would suggest the year 27 or 28 rather than the year 25 which is proposed by Vitelli.

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taxes and of custom-duties in the harbours were sold separately. There was no *one* system of provincial administration at the court of the Ptolemies. The systems were adapted to local conditions and may have been changed very often according to circumstances. We have no right to postulate such a uniform organization for the Ptolemaic epoch, individual and informal as it was; a regular system of provincial administration first grew up in the Roman world State; the process of its formation was slow and in its beginnings it was very similar to the Ptolemaic system or rather to the Ptolemaic lack of system.

## IV. ZENON AND APOLLONIUS

### ZENON IN ALEXANDRIA

The next two years of the activity of Zenon are much better known to us. In the years 28 and 29 Zenon was again in Egypt, now in Alexandria, now on a long journey through the northern and middle parts of Egypt.<sup>37</sup> The letters of this period are comparatively numerous and may be easily subdivided into classes which fully illustrate the activity of Zenon in Alexandria, living the life of an influential, perhaps the most influential member of the "house" (*oikia*) of Apollonius. But very soon Apollonius and with him Zenon left Alexandria and began a long journey through many different places in Lower and Middle Egypt. They stopped often and spent days and days in the same place. Of these halts of the travellers we know something. A comparatively long time was spent at a landing place on the river or on one of the main canals, *Βερενίκης ὄρμος*,—perhaps a new foundation of the Ptolemies; the location of this place is unknown. Afterwards Apollonius and Zenon resided for some time at Bubastus and at Mendes, visited Memphis and came to Alexandria, stopping perhaps at Tanis and certainly at Naucratis. This itinerary is of course not complete and we shall probably learn more of it after the whole of Zenon's correspondence has been published.<sup>38</sup> The stopping places were fixed by the aim of the journey which seems evident enough. The new administrative and economic system introduced by Philadelphus and Apollonius required constant watching by its authors, steady control and readjustment of the new bureaucratic machine and therefore the occasional presence on the spot of the chief manager and executive power, the dioeketes himself.

<sup>37</sup> The dates of the documents are quoted in this article according to the regnal years of Philadelphus, since the question of the calendar and of the dates of this reign have been hotly debated and are still the subject of controversy. See Edgar, pt. IV, 93, and Wilcken, *Arch.*, VI, 447.

<sup>38</sup> On the itinerary of Zenon see Edgar, pt. I, p. 174; pt. IV, p. 81; cf. Wilcken, *Arch.*, VI, 448.

But Apollonius during his travels was occupied not alone by his organization of the public economy and by other affairs of State. He had various private affairs of his own on hand and during his travels he attended to them constantly. We shall see that for this purpose especially he had taken Zenon with him.

In one of the letters, written from Alexandria to one of the members of Zenon's staff, we meet with the title which Zenon bore at that time (P.Z. 16). He is of course still *ὁ παρὰ Ἀπολλωνίου* but at the same time he is the *οἰκονόμος* of Apollonius. This title is given to him in this document only, wherein the official title *στολάρχης* is given to one of his colleagues. We may therefore conclude that *οἰκονόμος* is also an official title. The designation *οἰκονόμος* is very vague indeed and has many meanings. Its origin must be sought in the domain of private economy, the *oeconome* being the manager of the house, corresponding to the latin *vilicus*, the manager of a villa. In the Egyptian administration this title was given to the direct representatives of the *dioeketes* in the administrative regions of Egypt, the *nomes*, or to his representative in the foreign provinces. It is impossible to assume that Zenon was one of these Egyptian or provincial *oeconomes*. The letters do not show that Zenon had any special official connection with any place either in or outside of Egypt. The following investigation of the correspondence of Zenon for these two years will show precisely what the title did mean.

Before we deal with the content of the many letters of these two years we must first stop and look at the surroundings of Zenon, at his constant correspondents who also formed a part of Apollonius' staff. This survey will bring us into the midst of the court of Apollonius, which was not very different from the court of the King himself.

The best known members of the court of Apollonius and the closest colleagues of Zenon were the following. An important post was occupied by *Amyntas*, a man probably of Macedonian origin. According to the content of the letters which he wrote to Zenon, he managed large numbers of domestics employed by Apollonius. His official title is not mentioned in Zenon's correspondence, but the contents of his letters leave no doubt

of the character of his commission. One of the most amusing of his letters runs as follows (P.S.I. 329, year 28): "Amyntas to Zenon greetings. You must know that the cook whom you bought ran away taking with him the 80 drachmae which he received for buying hay for the horses. He was met by some people near Athribis. He is now with the Cappadocians who have their camp there. You would do well if you would announce to all our servants, and if you would write to everybody whom you find useful, to catch him and to help in sending him to you (or to me)."<sup>39</sup> It is interesting to see that the household of Apollonius consisted, at least in part, of slaves who were dispersed all over the country and that this household was constantly being enlarged by new purchases of slaves. We may conclude from this letter that one of the tasks of Zenon was to buy slaves for Apollonius' household and that slavery was gradually introduced into Egypt by the new foreign elements in the country.

Similar information is derived from the letter P.S.I. 483; here we find Amyntas quarreling with one of the carpenters of the household. In another letter (P.Z. 10, year 28), he gives orders to pay salaries to some Greek members of the household, among others to an Artemidorus the *ἐλέατρος*,—the manager of the table, and to the gardener, probably chiefs of the corresponding departments of the household.

Some papyri, (P.Z. 8 and 9 and P.S.I. 533; cf. P. Lond. Inv. 2305), deal with preparations for a river journey. Amyntas asks Zenon to prepare several ships for this journey and to buy

<sup>39</sup> The text of this letter is printed by Vitelli with some lacunae and some unsatisfactory supplements. I give it with the corrections of Wilcken, *Arch.*, VI, 386, and with my own. 'Αμύντας Ζήνωνι χαίρει[ν· γίνωσκε ὅτι ὁ μά]γειρος ὃν ὑμεῖς ἐπρίασ[θε]/ λαβὼν χαλκοῦ δραχμὰς π ὥστ[ε εἰς χόρτασμ]α τοῖς ἵπποις ἀποοῖδρακ[ε· συνήν]/ τηκε δὲ τισιν περὶ "Ἀθλιβιν ὅς καὶ ἐστίν [παρὰ] τοῖς Καππαδόξι τοῖς ἐκε[ῖ τεί]/ νουσιν. καλῶς ἂν οὖν ποιήσαις τοῖς τ[ε] παισὶ πᾶσι διαγείλῃας καὶ γρά[ψας πρὸς]/ οὓς ἂν ὑπολαμβάνῃς χρῆσιμον εἶν[αι ὃ]πως ἂν οἱ παρ' ἡμῶν ἐπιλαμβ[άνων]/ ται αὐτοῦ συναντιλάβωνται τ[ε τοῦ κ]ατασταθῆναι αὐτὸν πρὸς ὑμᾶς. Ἐρρωσο. Γ'κη [. . . Verso. (ἔτους) κη Δύστρου η ἐν Μένδητι. 'Αμύντας περὶ τοῦ μαγείρου/ τοῦ ἀποδράντος.—Ζήνωνι. Cf. P.S.I., VI, p. X; in l. 3, Vitelli proposes: ἐκε[ῖ σταθμὸν ἔ]/ χουσι, which may be accepted if the χ in l. 4 is certain. In l. 5 Edgar and Vitelli read εἶν[αι ἱ]να ὡς ἂν οἱ et cetera.

certain equipment and some pieces of furniture. If the plans were made for the journey by Amyntas himself, as seems likely, Apollonius not being in Alexandria at that time, we cannot but wonder at the high requirements of this courtier of second rank and at the comfort of his travels.

Other officials of high rank were *Aristeus* and *Artemidorus*. The first was the treasurer, the second ὁ ἐπὶ τῆς οἰκίας, i.e., a kind of manager of the palace of Apollonius, similar to such managers as were formerly members of the households of the Russian Grand Dukes. All of these officials are named in P.S.I. 331. Very amusing is the letter P.S.I. 411. A fourth member of the court, Kriton, of whom I shall speak later, informs Zenon that: "Apollonius has opened the treasury<sup>40</sup> and has missed seven talents of silver and ordered the accounts of Aristeus and Artemidorus verified. I have written this to you so that you may accordingly make your own accounts ready. Apollonius was especially angry that the money was recorded as paid, without his order." It seems that the prospect of being called up for accounts without preparation was not a very pleasant one for the members of Apollonius' court.

The same Artemidorus is named also in P.Z. 26 (year 30) along with another *Artemidorus*, the chief secretary. Another papyrus where we meet some of the same individuals and some new ones is P.S.I. 340, while the same subject is discussed in P.Z. 11 and perhaps in P.S.I. 391 (b) (cf. also P. Lond. Inv. 2096). Unfortunately the letter P.S.I. 340 is not complete and is badly preserved; the first part of the letter is missing and the part which we have in full contains more hints at well known facts than the facts themselves. Who the writer of the letter was we do not know; it is addressed to *Artemidorus the doctor*, probably the house doctor of Apollonius. There are some difficulties concerning a *palaestra*. The author of the letter is involved in these difficulties. The question is, will the *palaestra* be opened or not? The writer is afraid that the King would become aware of the opening of the *palaestra* and that

<sup>40</sup> Πίσκος (chest) seems to be a common word in the Hellenistic period and especially in Alexandria; it designates the treasury. See Ps. Aristeas, 33 and the Lexica, cf. P. Lond. Inv. 2312, l. 11. Josephus, A. J., XII, 2, 4, translates it as κισβωτός; cf. Cohen, *De magistratibus Aegyptiis*, p. 102.



he, the writer, would be held responsible for it. The cause of all these troubles is a certain *Metrodorus* (1. 4: ἔστι δέ σοι πάντων τῶν κακῶν αἴτιος Μητρόδωρος). Further on this *Metrodorus* is defined as an *ἀνθρώπος ἀνελεύθερος* a man without culture, a *parvenu* in the circle of the highly civilized courtiers of Apollonius. But he can do much harm if Amyntas and the addressee will not interfere and if *Hegemon* will not write to Apollonius. If all these efforts remain unsuccessful and a certain *Ptolemaeus* does not receive the management of the *palaestra* the writer would be obliged to resign (1. 17: ἐκχωρεῖν ἐκ τῆς οἰκίας). Some lines in this letter are worthy of quotation in full, as they throw a splendid search-light on conditions prevailing in the house of Apollonius, 1. 7 ff.: "I did not know of all that (the intrigues of *Metrodorus*). But now when I learn of it I protest and I say: Apollonius spends most of his time in the country (χώρα as opposed to Alexandria); Amyntas does not live in the house; he has recently been married and a baby has been born to him; he is therefore beyond suspicion. Accordingly it is against me that the arrow is shot, against me who lives in the house."

What kind of *palaestra* is meant in this and the related letters quoted above I do not know. It seems to be a *palaestra* where the children of the higher officials were trained, the *νεανίσκοι* from the ranks of whom the officers of the army and the higher officials were recruited, a kind of page corps closely connected with the house of Apollonius.<sup>41</sup>

And now to consider the last and perhaps the most interesting member of this company. I mean *Kriton the stolarches*, the commander of the fleet. His title is mentioned in the letter quoted above (P.Z. 16, year 28). The treasurer *Aristeus* writes to *Aratus* who accompanied Apollonius on his journey, to remind Zenon and *Kriton* not to forget to buy various kinds of cloth, some of which were specialties of the city of Tanis. His commission as commander of the fleet is reflected in his short and friendly letter to Zenon (P.Z. 17), where he urges

<sup>41</sup> On these *νεανίσκοι* see the last article of the late Lesquier, "Le papyrus 7 de Fribourg," *Rev. d. études gr.*, XXXII (1921) 367. On the *νεανίσκοι βασιλικοὶ* see Rostowzew, "Die römischen Bleitesserae," *Klio*, Beiheft 3 (1905) p. 78.



Zenon to return to one of the sailors his pledge, lest the sailor refuse to work. But the most instructive are the letters P.S.I. 494 and 495 (both of the year 28) which form a unit with some letters written to Zenon (P.Z. 12 and 14, both of the year 29) and to Apollonius himself (P.S.I. 330, year 28). The letters P.S.I. 495 and P.Z. 14 were written by a certain *Heraclitus*; P.S.I. 494 by *Zoilus*, P.Z. 12 by *Krotus*. Moreover in P.S.I. 614 is mentioned *Heragorus* whose name is connected with olive oil in the agenda of Zenon P.S.I. 430, 3. These men very often mention each other. All write from abroad, from Syria and Palestine. Kriton himself travels very often and is often abroad (P.S.I. 614). They mention in their letters Ake (Ptolemais) (cf. P.S.I. 612), and Tripolis, Joppe, Gaza, Tyre, Sidon, the plain *Μασούας*, between the Lebanon and the Anti-lebanon. Some of these places, Gaza, Ptolemais, Rhabatammana, and moreover some cities of Asia Minor, Kaunus, Miletus, Halicarnassus, are mentioned also in P.S.I. 616, in connection with trade in cloth. All the letters speak of commercial transactions, of purchases and sales of different kinds of goods, of quarrels with the custom-houses. The letter P.Z. 14 shows that much trade was done in slaves, but that exportation of slaves was subject to certain formalities, the exporters being obliged to have a special license, l. 10 ff.: "*Menekles*, the man in Tyre, told me that he himself transported some slaves and goods from Gaza to Tyre and transshipped them in Tyre without having declared them to the farmers of the customs and without having a license for export; the custom officials became aware of it and confiscated the goods and the slaves." The rest of the story was that *Apollophanes*, an agent of Kriton, declared to the custom officials that the goods belonged to Zenon; thus Menekles got possession of them again. Heraclitus considered that Zenon should have given orders to Apollophanes to "profess" (*ἀπογράφειν*—a technical term of the custom-houses) as belonging to him, only "that which is useful."

Most characteristic is a letter of Zoilus written to Apollonius (P.S.I. 330). He asks Apollonius for permission to come up to Egypt and to report to Apollonius on "everything." "Do not allow me to be ruined, but help me. You thought me

worthy of great honour, but that man covered me with the greatest dishonour. I do not argue about money, the money which I paid under pressure, against every right and law." The man seems to have been involved in some rather doubtful affairs as an agent of Apollonius, and he hopes to be protected by him.

One of the men who appears in P.S.I. 495 is *Nicanor* (cf. P.S.I. 616, 5). He seems to be a man of some authority in Syria. We meet him again in P.S.I. 594, where he is sending to Apollonius some *ξένια*, i.e., gifts of wine, olive oil, meat, etc. In the same document are enumerated some products, including Syrian wine from the estate (*κτῆμα*) of Apollonius in Baitanata in Palestine (Bethanath), sent with the same ship by a certain *Melas*. This *Melas*, as Edgar pointed out, seems to be the manager of Apollonius' estate somewhere abroad, as shown by the very fragmentary document P.S.I. 554. The letter, P.S.I. 594, is written by Nicanor not to Apollonius but to Zenon and Kriton. The goods were to be delivered by the agent of Nicanor, Leonidas, at Memphis. We shall later learn something of Apollonius' connections in Memphis. Were the products, sent by Nicanor, also products of an estate of Apollonius or were they gifts, not to say bribes of an influential official to the mighty dioeketes of Alexandria?

Our evidence about the affairs of Apollonius in Syria is scanty enough. But I must confess that the impression produced on me by the papyri quoted above is not a very attractive one. These agents of Apollonius who worked for him, one of whom was Zenon for some time in Syria and Palestine, tried to make the most out of the high position of their master. Syrian oil and slaves (cf. P.S.I. 648 where "slaves from Syria,"—*σώματα ἀπὸ Συρίας*, are mentioned), just the articles which were not allowed to be imported into Egypt, seem to be the goods in which they dealt by preference. Their worst enemies were the farmers of the custom-duties, men who were certainly subordinates of Apollonius.

Another case of the same type forms the subject of a sharp letter which one of the highest courtiers of the King, *Posidonius*, the *ἐδέαυρος* or master of the table, wrote to Apollonius in the year 28 (P.Z. 6). His barge with grain was arrested by the

farmer of the custom-duties at Memphis, and the iron which he had on board was confiscated. Trade in iron apparently was not allowed to private persons. Posidonius is highly indignant. He claims of course that the iron is not for sale but is part of the necessary equipment of his barge. And he appeals to Apollonius to whom certainly the custom-houses of Egypt were subordinate.

Apollonius appears therefore as a man involved in many various commercial affairs in Syria. No doubt these were his private affairs and had nothing to do with his official position. He owned large fleets of merchant ships both in Egypt and abroad, and the commander of these fleets was Kriton the stolarch. We may ask, why did the King allow this curious combination of official and private business? I imagine that Philadelphus was not against such a combination. Was he not himself at once a King and a wholesale merchant? Did he not himself trade in the products of his lands? It was easy to nationalize everything in Egypt: agriculture, industry, trade and the rest. But foreign commerce is a complicated business and without the help of the born traders and sailors, the Greeks, no foreign commerce whatever was possible. Apollonius may have cheated the treasury of which he was the head. But without such men as Apollonius Egypt was unable to develop its world-wide trade and to claim to be the heir of Athens. I do not know that Apollonius himself did not act as a kind of agent of the King. I repeat, no sharp lines can be drawn between private and public in the Hellenistic monarchies in general. The Bosporan Kings, for example, were at the same time kings and presidents of the associations of Bosporan and foreign merchants, being great merchants themselves.<sup>42</sup>

Such was the court of Apollonius. For the first time the correspondence of Zenon gives us a vivid picture of such a court, the court of one who was a high official and a business-man at the same time. How complicated was its organization! We hear nothing of the lower elements of this court, slaves to a great extent. But how many heads of different departments we meet: the master of the house, the master of the servants, the

<sup>42</sup> See my book, *The Iranians and the Greeks in South Russia* (Oxford, 1922), ch. IV, VII.

treasurer, the secretary, the doctor, the head of the *palaestra*. Below them some minor officers: the chief of the table, the chief gardener, the chef, the chief carpenter, etc., etc. And along with them the master of the commercial fleet and scores of agents in Syria and probably in other places. Can we affirm that this organization was a revival of the ancient Oriental and especially the Egyptian courts? The analogy in some points is striking. But have we not a little later a similar organization in the courts of the great Roman magnates of the second and first centuries B.C.? We may say that these were copies of the Hellenistic courts. But could not the organization of a purely Greek house have developed into a court and have been merely influenced by the Oriental customs? The "house" of a Roman senator was just a typical Roman "domus" but of enormous size and consequently exceedingly complicated.

Zenon was a member of this court. We may say he was already that during his stay in Syria and Palestine. What kind of commission had he at this court? Let us examine the documents.

It is worth noting that among more than forty letters of the archives of Zenon which belong to this period only one is connected with affairs of State and this one is addressed not to Zenon but to Apollonius himself. This letter (P.Z. 5), written by a certain Demetrius, speaks of a highly important matter closely connected with the building up of the Alexandrian trade. Demetrius reports to Apollonius the result of an order issued probably by the King and by Apollonius, according to which all the foreign merchants were required to exchange their foreign gold, likewise their worn Ptolemaic gold coins and even their gold plate, for Egyptian gold and silver coins. The aim of the measure itself was not unwise. But many details had not been provided for with the result that trade was hampered; the business-men, the wholesale merchants (*ἐμποροὶ*) and the owners of store-houses (*ἐγδοχεῖς*) became angry. They had brought with them much gold plate to be used in making their purchases and now complained (l. 24), they could not "send out their agents to buy goods and their gold lay dead." I cannot deal with this papyrus at length. It requires a special investigation from the numismatic and economic points

of view. But I do not wonder that this letter was handed over by Apollonius to Zenon. Was Zenon not the chief of the commercial operations of Apollonius and had he not constantly to do with foreign trade?

The rest of Zenon's correspondence deals exclusively with the private affairs of Apollonius. A comparatively small number of letters bear on matters connected with the household of Apollonius in the strict sense of this word. I have mentioned some of them already in dealing with the staff of Apollonius. There are, for example, letters asking for money to expend on the travels of Apollonius and his staff (P.S.I. 482 and 533; P.Z. 8 and 9), a letter dealing with some grain to be paid to a *πράκτωρ* (P.S.I. 335), a letter demanding money for the payment of salaries (P.Z. 10), etc. A curious group deals with religious affairs. In P.S.I. 328 (year 28) the priests of Aphrodite of one place in the Memphite nome ask for a large amount of myrrh for the ceremony of the burial of Osiris or Adonis. The letter is interesting in itself as another instance of the mixture of native, Greek and dynastic cults.<sup>43</sup> Aphrodite is certainly another name for Isis, as the priests themselves explain it, and both are identical with Arsinoë.<sup>44</sup> It is not surprising that for the burial of her divine husband, be it Osiris or Adonis, the priests expect the government to give the required myrrh. But why do they ask Apollonius and not the King directly? Hardly because the trade in myrrh was entirely in the hands of the State. If this were the reason the priests should ask the oecome of the nome for it. But we shall see later on that

<sup>43</sup> See the ingenious article of G. Glotz, "Les fêtes d'Adonis sous Ptolémée II," *Rev. d. études gr.*, XXXIII (1920) p. 169 ff.

<sup>44</sup> I see no possibility of following Wilcken in his explanation of this papyrus as given in *Jahrb. des Deutsch. Arch. Inst.*, XXXII (1917) p. 202 and *Arch.*, VI, 386. He thinks that the myrrh was required for the burial of a woman or girl who had drowned herself in the Nile (*ἑσείς*),—perhaps favourite of Philadelphus. The burial is probably that of Osiris or Adonis, not Apis. The name *ἑσείς* may be a mystical name for Isis and in this way may have been given to those who found their death in the sacred waters of the Nile. More probable is the explanation of Edgar, P.S.I. VI, p. X: he thinks it was the sacred cow, Hathor, drowned in the Nile by the priests in a sacred ceremony, cf. Spiegelberger in *Orient. Literaturzeitung*, XXIII, 258.



Apollonius had quite special relations with the Memphite nome, which were not restricted to his having an estate (*δωρεά*) there. I think therefore that the priests addressed Apollonius as *the man* who represented for them the King and the State.

Of the same kind is P.S.I. 435—P.Z. 7 (year 28), again a document highly interesting for the history of the religious policy of Philadelphus. This time a certain Zoilus (is he not the same man who was the agent of Apollonius in Syria?) asks Apollonius to give him money for the erection of a sanctuary to Serapis somewhere outside of Egypt. He refers to some miraculous appearances (*ἐπιφάνειαι*) of Serapis and tells how he was punished for his incredulity by a sudden illness. It is just the well known story told by Livy about Juppiter Capitolinus. The aim of the man is certainly to make himself known to the King through his devotion to the cult of Serapis created by the King. Since it was a request for money, the letter was given to Zenon by Apollonius, just as he had given him the request of the priests of Aphrodite.<sup>45</sup>

But the greater number of the documents of these two years are of quite a different character. They may be divided into two large groups. One group which I tried to explain, early in this chapter in dealing with Kriton, is concerned with the commercial affairs of Apollonius in Syria, Phoenicia and Palestine. All these letters, whether written to Zenon personally or to others, to Apollonius or to Kriton, were placed in his hands, no doubt because he was the chief manager of these matters prepared as he was to deal with them by his two years of residence in Syria. Another letter of the year 28 refers to the same activity of Zenon (P.S.I. 491). *Epharmostus* (the brother of Zenon?) forwards his accounts and some eight documents to Apollonius, first through *Agreophon* and then through Zenon. Among the documents there is a letter of *Hipponicus* and one of the *banker Zoilus*.

The second group, still larger and still more important, deals with agricultural work near Memphis and Philadelphia. For the year 28 we have ten such and a larger number for the next

<sup>45</sup> Cf. the well known story of the Serapeum of Delos lately investigated by P. Roussel, *Les cultes égyptiens à Delos* (Paris, 1916), p. 71 ff. On the *ἐπιφάνειαι* see Rostowzew, *Klio*, XVI (1920), p. 203; cf. P.S.I. 539.







year. They refer to lands which Apollonius received from the King as gifts, *δωρεάι*. The chief correspondents of Zenon were a certain *Panakestor* who resided in Philadelphia and a certain *Addaeus* who wrote to Zenon from the Memphite nome. Panakestor even came to see Zenon to confer with him on these affairs (P.S.I. 502). Many letters give Panakestor the title—ὁ παρ' Ἀπολλωνίου, the same which Zenon had in Syria. He was certainly the chief manager of the *δωρεά* of Apollonius in Philadelphia and we may assume the same position for Addaeus over the *δωρεά* near Memphis.

This evidence shows that Zenon in the years 28 and 29 was the chief manager of all the private affairs of Apollonius, both commercial and agricultural. He stood in the same relation to Apollonius as Apollonius to the King. Thence his title *οἰκονόμος* the manager of Apollonius' *οἶκος* (estate), of all the economic affairs of Apollonius. He may have occupied the same post during his stay in Syria or he may have been promoted to this influential position after displaying exceptional ability in his work in Syria.

The second half of the year 29 brought an important change in the life of Zenon. He left Alexandria for the Arsinoite nome never to return to Alexandria. Some of his letters of the year 29 are docketed as received in Arsinoe (P.S.I. 505 and P.Z. 15, comp. Edgar II, p. 235); one is written by him to Panakestor from Crocodilopolis (P.Z. 22), the capital of the Arsinoite nome. At the same time Apollonius was expected to come to the Fayum (P.Z. 18). It is not easy to say what place is meant by Arsinoe. The most natural supposition would be that Arsinoe is Crocodilopolis and that Zenon spent some time in the capital of the nome before starting for Philadelphia. But some scholars have suggested several reasons for supposing that Crocodilopolis never bore the name Arsinoe and at that period was usually called Crocodilopolis.<sup>46</sup> I cannot discuss this matter here although I have many doubts on the value of this suggestion (see P. Petrie II, 26, 7 and 8, III, 64 (a); Plau-  
mann, *Arch.*, VI, 180). On the other hand we know of a place near Philadelphia called Arsinoe which is often mentioned in Zenon's correspondence in close association with Philadelphia.

<sup>46</sup> Grenfell, P. Tebt., II, Geographical Appendix, *sub verbo*.

(P.S.I. 360, year 34). Nevertheless I am inclined to suppose that Zenon stopped not at this last Arsinoe but in the city, in the capital of that name.

Why did he go to the Fayum? We have seen that his activity in the year 29 was more and more absorbed by the management of the agricultural affairs of Apollonius. It may be that Apollonius decided to devote more attention to these affairs and to invest in them more money. In any case the whole amount of this business was placed in the hands of Zenon. On the other hand the correspondence of Zenon with Panakestor and of Panakestor with Apollonius shows that Apollonius was not satisfied with the activity of Panakestor at Philadelphia. One of the letters which Apollonius addressed to Panakestor in the year 29 (P.Z. 19) contains a polite but flat refusal of one of the demands of Panakestor. Another letter of the same year (P.S.I. 502) is sharper in tone and accuses Panakestor of negligence. At the same time Panakestor during his visit to Zenon seems to be looking for other employment (P.S.I. 502, 1-7).

It is not surprising that having decided to invest large sums of money in his domain of Philadelphia (see below, chapter VI), Apollonius should have sent to Philadelphia his best man, Zenon, without having dismissed Panakestor. In any case Zenon after having stopped for some time at Arsinoe-Crocodilopolis, or at Arsinoe and Crocodilopolis, went straight to Philadelphia where we meet him in the month of Mecheir of the year 29. P.Z. 23 is a letter received by Zenon in Philadelphia where he is addressed in the same way as Panakestor before him, as *ὁ παρ' Ἀπολλωνίου ἐν Φιλαδελφείαι τῇ ἐν Ἀρσινοίτῃ*. No doubt then he had been appointed by Apollonius chief manager of his estate at Philadelphia where he was to reside. His further correspondence shows that he never left Philadelphia except for short times but devoted his life to the affairs of Apollonius there. After the year 29 there are almost no letters which deal with business outside Philadelphia. His friends in Alexandria do not write to him very often and when they do their news is not always pleasant. For example in the letter P.Z. 26 (year 30), Zenon is informed that Artemidorus the house-keeper of Apollonius does not want to pay

the debts contracted by Zenon in the name of Apollonius (l. 18): "Artemidorus says that the matter does not concern him and that he will not even pay any attention to it if you write to him personally." We may suppose that Artemidorus was the successor of Zenon in his office of chief manager of the private affairs of Apollonius. This impression is confirmed by a letter written to Zenon by Artemidorus in the year 30 (P. Lond. Inv. 2083). In this letter Artemidorus asks Zenon to send him an accounting of the purchase of some animals he had bought, as the expense should be charged to the account of Apollonius and not to the account of the estate.

Thus after the year 29 the correspondence of Zenon deals almost exclusively with the affairs of Philadelphia and the *δωρεὰ* of Apollonius there. Let us examine the nature of his business there.

## V. ΔΩΡΕΑΙ

We have seen that the economic interests of Apollonius lay chiefly in land which he possessed in the two nomes, Arsinoe and Memphis. These interests are described in some documents of Zenon's correspondence. In the fragmentary P.S.I. 511, l. 4, something, the name of which is missing, is sent εἰς τὴν ἐν Μέμφει δωρεὰν τὴν Ἀπολλωνίου to the estate of Apollonius in Memphis. The account dealing with the new wine, γλεύκος (P.S.I. 544) is headed: εἰσὶν οἱ οὐκ εἰληφότες/τὸ γλεύκος δι' Ἑρμολάου/ἐκ τοῦ Μεμφίτου./ ἐκ τῆς Ἀπολλωνίου (i. e., δωρεᾶς) μετρηταί κ (twenty). So much for Memphis. In P.S.I. 518, the first lines run as follows: (ἔτους)/λε ἐκ τῆς Ἀπολλωνίου/τοῦ διοικητοῦ δωρεᾶς/τῆς Δάμιδος καὶ Ἐτεάρχου νομαρχίας. We know that the nomarchy of Damis and Etearchus was situated in the Arsinoite in the meris of Herakleides. Therefore this second δωρεὰ of Apollonius is identical with Philadelphia, the residence of Zenon.

Thus Apollonius possessed two estates called *δωρεαί*: one in the Arsinoite, the other in the Memphite nome. *Δωρεᾶ* means gift, present. The special kind of land grant called *δωρεαί* is known to us from some references in the documents of the early Ptolemaic times, from Philadelphus to Philopator. I have dealt with this topic in my book on the Colonate.<sup>47</sup> Let me briefly repeat my statements with certain modifications and additions.

The nature of a *δωρεᾶ* is clearly defined in two chapters of the νόμοι τελωνικοὶ of Philadelphus: in col. 36, the πρόσταγμα of Philadelphus of the year 23, and in col. 43 in the chapter on the payment to the treasury of the φορτία ἐλαικά.

The first text prescribes a registration of the vineyards and orchards by their holders (l. 11 ff.): ὡσαύτω[ς]/ δὲ καὶ τ[οῦ]ς κληρούχους τοὺς ἔχοντας <τοὺς> ἀμπελῶ[νας]/ἢ παρα[δείσ]ου[ς] ἐν τοῖς κλήροις οἷς εἰλήφασιν παρὰ τ[ο]ῦ βα[σιλέως] καὶ τ[οῦ]ς λοιποὺς πάντας τοὺς κεκτημένους / ἀμπελῶνας ἢ παραδείσους ἢ ἐν δωρεαῖς ἔχοντας ἢ γεωργοῦντας καθ' ὀντινοῦν τρόπον ἔκαστον, etc.; that is to say,

<sup>47</sup> Rostowzew, *Studien*, p. 42 ff.; cf. Lesquier, P. Lille 28, introduction and commentary.



"similarly both the cleruchi who possess vineyards or orchards in the lots which they have received from the King, and all other persons who own vineyards or orchards or possess them within their *δωρεαὶ* or hold them in lease on any terms whatever." The second text (l. 11 ff.) says: [ὅς]οι δ' ἀτελεῖς εἰσιν κατὰ τὴν χώραν ἢ ἐν δ[ωρεᾷ]/ [ἢ] ἐν συντάξει ἔχουσι <ν> κώμας καὶ γῆν that is to say, "all persons throughout the country who are exempt from taxation or hold villages and land in gift or receive the revenues therefrom as income." And finally in col. 44, 3 ff. we read: ὅσαι δ' ἐν δωρεᾷ κῶμαι εἰσιν ἐν ταύταις δὲ ἐλαιούργιον μὴθὲν καθιστάτωσαν, "they shall not install oil factories in the villages which are in gift."

I must first emphasize the fact that *δωρεὰ* and *δωρεαὶ* are used by Philadelphus in two different though related senses: village ἐν δωρεᾷ or land ἐν δωρεᾷ mean the same as *δωρεαὶ* simply, thus *δωρεὰ* designates both the status of the land and the land itself.<sup>48</sup> Moreover the R. L. show that the *δωρεαὶ* were very common in the time of Philadelphus and ranked as high in importance as other classes of land, such as the cleruchic lands and the private lands. The status of this class of land was similar to that of lands which were exempt from taxation and lands ἐν συντάξει, that is, according to the explanation of Lumbroso, the lands whose revenues were regarded as substitutes for salaries or other payments due to their holders. But there is no evidence in the R. L. that the *δωρεαὶ* were exempt from taxation. Another peculiarity of the *δωρεαὶ* is that they may be land only, or land and a village, even land and many villages. Philadelphus in his νόμοι τελωνικοὶ makes no distinction in this respect in saying κώμας καὶ γῆν; he allows us to suppose that generally the two kinds of gifts were combined, land being given together with the κώμη or κῶμαι. It is to be noted that such villages were not allowed to contain oil factories, precisely because they were given in gift. We shall later come back to this point.

The scanty evidence of the R. L. quoted above is almost all that we have hitherto had about the *δωρεαὶ*; references to the *δωρεαὶ* in the early Ptolemaic texts are very rare. Let me

<sup>48</sup> In this point my translation differs from that given by Grenfell.

review these references. Near the village of Κάμιννοι (Furnaces) there was the *δωρεὰ* of Chrysermus (P. Lille 28, year 4 of Philopator). Chrysermus is a comparatively well known man. An inscription at Delos (Dittenberger Or. Gr. inscr., 104) of the time of Euergetes shows that he was a son of Heraclitus, an Alexandrian citizen and under Euergetes had the title of the King's relative (*συγγενής*) and some honorary commissions in Alexandria: he was *ἐξηγητής, ἐπὶ τῶν λατρῶν* and *ἐπιστάτης τοῦ Μουσείου*, i. e., the president of the city council in Alexandria, the president of the Academy of Medicine and the president of the Academy of Science and Letters or Museum. His active service was performed in the time of Philadelphus when he was one of the Eponymi (titular heads) of a military corps, probably the acting and not the honorary commander. The papyrus P.S.I. 513, year 34, mentions one of his officers who had received land in the territory of Philadelphia. Under Euergetes he was out of active service but was highly esteemed, therefore probably not very young. In P.Z. 65 (year 4 of Euergetes) he acts as a judge in a law-suit between two members of the late Apollonius' household—Zenon and Philon. Yet he survived Euergetes, as is shown by the papyrus which mentions his *δωρεὰ* in the year 4 of Philopator, and kept his prominent position even under Philopator. His son Ptolemaeus was one of the ablest diplomats of Philopator and a friend of Cleomenes (Plut. Cleom. 36). Nay, even the sons of Ptolemaeus and one of his grandsons were still influential at the beginning of the second century, as is shown by the fact that they were sent to Delphi as ambassadors in 188 and 185 and were elected Proxeni of Delphi (Dittenberger, Syll.,<sup>3</sup> 585, l. 52 ff. and 84). It is probable that Chrysermus received his *δωρεὰ* either under Philadelphus or under Euergetes, as it is hardly possible that the old man lived very long under Philopator. He may have received from Euergetes some of the grants given to Apollonius by Philadelphus. This would explain his rôle of arbiter and judge between the two members of the former court of Apollonius, P.Z. 65. Of his *δωρεὰ* as such we know very little. The peasants of the village Κάμιννοι worked the land of the *δωρεὰ* and paid the *ἐκφόριον* or rent to Chrysermus; in judicial and

administrative matters they were subject to the regular administration.

Another document, P. Lille 19 (year 16 of Euergetes) speaks of a certain amount of grain ( $2247\frac{1}{2}$  artabae) paid by Sarapion the manager of the estate of Kallixenes (ὁ προεσθηκὼς τῆς Καλλιξένους ὠρεᾶς), through an agent of the epimeletes to the treasury. The nature of the payment is not understood nor is it known who Kallixenes was.

Finally Lesquier in his comment on P. Lille 28 pointed out that P. Petrie III, 100 (b), col. II, 30, seems to mention a ὠρεὰ of Nicanor (ἀπὸ τῆς Νικάνορος ὠρεᾶς). If he be right Nicanor may be identical with the Eponyme of one of the military corps mentioned in 238/7 B. C. (P. Petrie I, 15-III 2, 5-6). Moreover the ὠρεαὶ are mentioned also in P. Petrie II, 39 (g), a reference to hay which belonged to a ὠρεᾶ, and perhaps in P. Petrie II, 53 (s), where one of the taxes seems to be assigned to the holders of a ὠρεᾶ.<sup>49</sup>

Outside of Egypt we may regard as a ὠρεὰ the city and land of Telmessus, given to Ptolemy son of Lysimachus by his uncle King Euergetes.<sup>50</sup> Many peculiar characteristics suggest also a similarity between the holders of the Egyptian

<sup>49</sup> P. Petrie II, 39 (g) is a collection of excerpts from different letters, the second excerpt being: ἀλλη. οἶμαι σε παρακολουθεῖν/ διότι ὑπάρχει ἐν τῇ ὠρεᾷ/χόρτος ἱκανὸς ἀφ' οὗ ἐὰν/ ἐν δυνατῷ ἦι ληφθῇ/ εἰς τὰς ἐν τῷ νομῷ ἀβρόχους/εἰς ἀρούρας Σ ἡ πλεῖον καὶ εἰσμετρηθῇ τὸν καθή/κοντα πυρὸν οὐδ' ἐὰν ἀνείη. The sense of this excerpt is far from being clear. P. Petrie III, 53 (s) contains a πρόσταγμα of the King: . . . ἡ/μέρας κ. προσ/τάγματα βασιλέως/ Πτολεμαίου./ἀρείκαμεν δὲ/ καὶ τὸ γράφιον/ τῶν Αἰγυπτί/ων συγγραφῶν./τὸ δὲ ἀπὸ [τ]ού/των πρότερον πείπτον/ διδόναι παρ' αὐ/τοῦ τοῖς ἔχουσι/ τὴν ὠρεάν. ἔτους ις Γορπιαίου δ, Χοίαχ ια. Again the sense of this order is not clear. It seems that the revenue from the γράφιον due for the former years was given by the King to the holders of a certain ὠρεᾶ, the payers being freed for the future from the payment of the tax. P. Petrie III, 73, which I quoted in my *Studien*, p. 42, speaks of a market building which belonged to a certain Artemidorus; the building may have belonged to a ὠρεᾶ.

<sup>50</sup> See Rostowzew, *Studien*, p. 278 ff. On Ptolemaeus who is a subject of controversy, see E. von Stern, *Hermes*, 50 p. 427 ff., especially p. 437. Stern quotes my statement on the ὠρεὰ of Ptolemaeus in my book on tax farming, *Geschichte der Staatspacht in der Römischen Kaiserzeit* (Leipzig, 1900), p. 261, note 61, but overlooks my treatment of the inscription Dittenberger, *Or. gr. inscr.*, 55, in my *Studien* quoted above.

δωρεαὶ and Josephus the farmer of Palestine, probably under Philopator.<sup>61</sup>

Such are the scanty data on the δωρεά. It is noteworthy that the evidence belongs almost exclusively to the early Ptolemaic period, the third century B. C., especially to the time of Philadelphus. The documents of the second century thus far disclosed do not mention any δωρεαί. The silence of the Tebtunis papyri can of course be explained by the supposition that the territory of Tebtunis contained no δωρεαί, but the silence of P. Paris 63 is more significant, although we may suppose that in the enumeration of the different classes of landholdings, the δωρεαί are included in the lands held by the strategoi and other more influential officials. Nevertheless the fact remains that the name δωρεά is not applied to these lands. It seems therefore as if the δωρεαί were peculiar to the reign of Philadelphus and that after him the institution either died out or assumed a different form.

The correspondence of Zenon throws fresh and abundant light on the δωρεαί both as regards their legal status and their economic management. In P. Z. 36 (year 31), cf. P. Z. V, p. 19, no. 36 (a), in a loan-contract between some peasants and Zenon we read (l. 4 ff.): ἐδάνεισεν Ζήνων Ἀγρεοφῶν[τος]/[Καύνιος τῶν περὶ Ἀπολλώνιον τὸν διοικητὴν ὁ προσταθεῖς ἐν ταῖς Μ (μυρίας ἀρούραις) ταῖς ἐν Φιλαδελφείᾳ δεδομέναις ἐν δωρεαῖ Ἀπολλωνίῳ] ὑπὸ τοῦ βασιλέως and the same expression is used in two letters from peasants, one addressed to Apollonius, the other to Zoilus the oecnome (P. Lond. Inv. 2090, l. 1 foll.: οἱ γεωργοὶ . . . ἐκ κώμης Φιλαδελφείας τοῦ Ἀρσινοεῖτου νομοῦ ἐκ τῶν σῶν μυρίων ἀρουρῶν and P. Lond. Inv. 2094, l. 1: οἱ γεωργοὶ . . . ἐκ κώμης τῆς Φιλαδέλφου ἐκ τῶν μυρίων ἀρουρῶν). The expressions used in these papyri for describing the estate of Apollonius leave no

<sup>61</sup> I maintain my belief in the historical kernel of the story of Josephus, the farmer, which was told at some length and with some details, partly invented and partly borrowed from the Bible, by Flavius Josephus, A. J., XII, 4; cf. Cohen, *De magistratibus Aegyptiis*, p. 98 ff. There is no contradiction between the data of the inscriptions and papyri and those of Flavius Josephus. Palestine in the story is treated in the same way as Telmessus was treated by Euergetes I; the only difference is that for the δωρεά of Palestine the holder paid a tribute which equalled the revenues of the province formerly paid by the official representatives of the land.

doubt about the position occupied by Zenon in Philadelphia: he is the manager for Apollonius of the estate given to Apollonius by the King. Furthermore the documents describe the estate as a grant of 10,000 arurae of land in the territory of Philadelphia.

It reminds us of one of the P. Petrie which never has been understood. I mean P. Petrie II, 42 (a),—the well known appointment of Theodorus, the chief engineer of the Arsinoite, of which I have spoken above in chapter III. This document runs as follows: Κλέ[ανδρος οἰκο[νό]μοις νομάρχ[αις]/βασιλικοῖς γραμματεῦσι φυλα/κί[ται]ς μυριαρούροις κωμάρχ[οις]/ κωμογραμματεῦσι χαίρειν./ ἀπολελοίπαμεν Θεόδωρον τὸν ὑπαρχιτέκτονα πρὸς τῇ φυλακῇ/ τῶν χωμάτων καὶ ταῖς ἀφέσεσιν/ ἐντειλάμενοι αὐτῷ καὶ τὴν ἀνα [βολὴν τῶν ἐ]ν [τῷ νομῷ χωμάτ]ων (the supplements in the last line are mine)—i. e., “Kleandrus to the oeconomi, the nomarchi, the royal secretaries, the police, the ten thousand arurae men, the komarchi, the village secretaries, greeting. We have left (i. e., appointed) Theodorus the second engineer to guard the dykes and the sluices having entrusted to him also the construction of the dykes in the nome.” The enumeration of the officials is characteristic. First the oeconomi, the managers of the economic affairs of the nome, then the nomarchi, of whom we shall speak later on, and then the royal secretaries,—all officials of the nome who had to do with the management of the land. After them the police officials in general, and finally the myriaruri, the comarchi and the village scribes, the officials of the territories of which the nome consisted. It should be noted that the toparchi and the secretaries of the τόποι are not mentioned.

It is evident that the μυριάrouροι, the holders of the δωρεὰι of ten thousand arurae, rank with the village administrators, responsible like the comarchi and the village-secretaries for a territory which corresponded to the territory of a village. It is exactly this position which the R. L. assign to the δωρεά: the territory of a δωρεὰ corresponded or rather may have corresponded to the territory of one or more villages. It is evident also that under Philadelphus and Euergetes, the myriaruri formed a class that was very numerous in the nome, and at the same time they were situated above the regular village administration.



Moreover, the title *myriaruri* permits us to grasp the military character of the royal gifts since the terminology is based on the cleruchic terminology. Along with the *δεκάρουροι*, the *εἰκοσάρουροι* and the rest up to the *ἐκατοντάρουροι* (the holders of ten, twenty, and up to a hundred *aruræ*), we have then a much higher class of cleruchi, the ten-thousand-aruri. In the case of both the cleruchi in general and the *myriaruri*, the grant of land is a royal gift specified as such of course only in the case of the *myriaruri*. But the idea of the *cleri* as royal gifts is common to the Hellenistic period; see, e. g., *Phoin. Meg. fr. 4* (*Αἰλητριίδης*): a hetaera lived with a soldier or officer who convinced her "that he will receive a *δωρεά* from the King. And this he repeated over and again. Now because of this *δωρεά* of which I am speaking this scoundrel had me a whole year for nothing (*δωρεάν*)."

If we try to define more closely the legal position of these grants of land, of these gifts of the King, we find first of all that the grant had a purely personal character. This personal character is emphasized by the R. L. ὅσοι ἐν *δωρεῇ* . . . ἔχουσι κώμας καὶ γῆν as well as by the denomination of the *δωρεαὶ* by the individual name of the holder: Ἀπολλωνίου, Χρυσέρμου, Καλλιξένους etc. It is certain therefore that the *δωρεαὶ* were not hereditary but personal holdings, usually associated with the high position occupied by the holder in the military or civil administration of the kingdom. Note that the *δωρεά* of Apollonius is constantly specified as the *δωρεά* of Apollonius the dioeketes. As a personal grant of the King the *δωρεά* could certainly be taken back by the King at any moment. If Chrysermus kept his *δωρεά* for a long time it was because of his constantly good relations with the Kings, of his being permanently in the royal service. The question arises as to whether the possession of *δωρεαὶ* was dependent on service for the State or not, that is, whether the man who lost his commission was deprived automatically of his *δωρεά* or not. This question so far remains unsolved.

There is no doubt that the Kings regarded the *δωρεά* not as the property of the temporary holder but as their own property, as a piece of the royal land (*γῆ βασιλική*). This is manifest from one of the letters of Apollonius to Zenon. In





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PLATE III  
 P. Z. 27 LETTER FROM APOLLONIUS TO ZENON

P.Z. 27 (year 30) he writes as follows: "The King has ordered us to sow the land twice. As soon as you gather the crops, irrigate the soil immediately by hand, or if that is impossible, allow as many *tollenos* (shadoofs) as possible to be operated and irrigate the land, but don't keep the water on the fields longer than five days. After irrigation sow the three-months wheat. Write me when you have succeeded in gathering the first crops."

Edgar in his comment on this papyrus assumes that the King is speaking of a piece of royal land. But this piece of land is really the ten thousand *arurae* which Apollonius had received from the King. The King intends to intensify the productivity of the Egyptian soil and starts with the land which he gave to this intelligent and zealous servant. Apparently he regards the land as his own, managed but not owned by Apollonius. The letter, by the way, also throws some light on the question of the intentions of the King in granting such large parcels of land to his nearest assistants. It seems that the holders of the *δωρεαί* had no more than a personal use of the land which remained the property of the State like the cleruchic land.

Nevertheless the holders of the *δωρεαί* were not in exactly the same position as the holders of the cleruchic land. A grant of ten thousand *arurae* in the territory of a village meant that the village came under the rule of the holder of the *δωρεά*; the village, so to say, was itself a part of the grant. I do not like to speak of patronage in this connection as it implies a measure of self-government in the village; I would prefer the word responsibility, the holders of the *δωρεά* being responsible for the proper administration of the village as well as for the proper management of their clerus. We shall see later the form this responsibility assumed in the collection of taxes and in the tillage of the soil. Let me speak in this chapter of the administrative side only. We do not know whether or not the *δωρεά* of Apollonius was confined to the territory of the new village of Philadelphia exclusively. We shall see that Philadelphia in its economic life was closely associated with other villages of the neighborhood, Hephaestias, Tanis, perhaps Arsinoe, *Νεανίσκοι* and others. But it seems that the relation of Apollonius to these villages was of a purely economic nature

and did not imply any interference on his part in the administration of these villages. An interesting hint at the relations between Philadelphia and the above mentioned villages with their population of βασιλικοὶ γεωργοί, may be gathered from the fact stated in my second chapter, that Philadelphia was later the head of a toparchy, including thus in its jurisdiction, from the administrative point of view, many other villages. We may expect some new light on this point from the publication of the documents collected at Tanis by Grenfell and Hunt in 1900.

But in Philadelphia itself Apollonius and his manager Zenon occupied quite a peculiar position. In the scores of letters of Zenon we find no mention of the regular village administration of Philadelphia, the komarchi, the village secretaries. All the functions of these administrative officers were therefore concentrated in the hands of Zenon. This is shown first of all by the fact that Zenon is the chief of Philadelphia's police force, the φυλακῖται. We have no mention of the village-epistates in Philadelphia, the official who plays such a prominent part in the contemporary documents of Magdola; the duties of this official were fulfilled by Zenon. This is stated definitely by many papyri. In P.S.I. 570 of the year 34 Zenon is asked to send some φυλακῖται (policemen) or perhaps *the* φυλακῖται who are under his orders ([τοὺς ὑπὸ σε φυλ]ακίτας). In P.S.I. 359 (year 34) Philiskus, the oecnome, requires from Zenon the delivery to his agent of a man who had fled to Philadelphia with a donkey and some sacks. In P.S.I. 366 and 367, Damis the nomarch asks Zenon to investigate the theft of a cow by two peasants, and to deliver the criminals to a policeman sent by Damis. In P.S.I. 384 (year 38) Zenon is asked to send back to Alexandria a tailor who had found refuge in Philadelphia in the house of his brother, one of the employees of Zenon. This man was a debtor to the State in Alexandria. In P.S.I. 419 (cf. 359), three ξένοι, i.e., men who did not legally belong to the population of Philadelphia, are found to be in prison in Philadelphia. They ask Zenon to release them and to give them the opportunity of appearing before the court of Philiscus. In another instance Zenon arrests the treasurer of the beer-shop of Philadelphia (P.Z. 33, year 31). Finally Zenon has at his disposal both local

police-agents (φυλακῖται) and native police-soldiers (μάχιμοι) as stated in P.S.I. 353 (year 32). These are functions identical with those of the epistate of a village, purely administrative and in no way judicial functions.

Zenon and his predecessor Panakestor were also responsible for the different kinds of compulsory labour due to the State by the population of Philadelphia. In P.S.I. 493 (year 28), the administration of the estate is asked to compile a list of men subject to labor in the salt monopoly. In P.S.I. 498 (year 29), Zoilus the oecnome demands of Panakestor a list of a certain class of ὑποτελεῖς with their families residing in the village. Of a similar nature also is the fragmentary letter P.S.I. 353, addressed to Zenon. Thus the duty of the registration of the population of the village as far as this population was in the service of the State fell to Zenon as it fell to the village-secretaries in other villages.

Finally, Zenon, like the comarchi and the village-secretaries, is responsible for the payments of the inhabitants of the village due to the State. In P.S.I. 510 (year 30), Zenon is asked to exact from Teos the bee-keeper his φόρος for seven months; Teos was ascribed to Busiris in the Herakleopolite nome. Another document of the same kind is P.S.I. 591, where Zenon appears as an intermediary between a certain Massichus, from whom a certain sum was exacted by Philiscus the oecnome, and Apollonius the dioeketes and Diotimus the hypodioeketes. The same functions were exercised by Zenon in the Memphite δωρεά. In P.S.I. 440, he is asked by the sacred slaves, cat-feeders (αἰλουροβοσκοί), of Bubastis at Sophthis in the Memphite nome, to free them from the compulsory labour which was imposed on them by Leontiscus, the chief of police in the village.

A peculiar relation existed between Apollonius and some Arabs in the service of Apollonius, residents of the territory of Philadelphia. We shall come back to them later on, but in P.S.I. 538, their representatives, the δεκατάρχαι, ask Apollonius for permission to have a chief of their own, an epistates, and they ask him also to write to Zoilus the oecnome to register this epistates as their chief.

So far we have dealt with the native population and their relations to Apollonius and to Zenon, but this population was

not the whole population of Philadelphia. Gradually some Greeks, not natives, came to settle at Philadelphia. In the year 34 (P.S.I. 513) some officers of the Ptolemaic army received parcels of land in Philadelphia. In P.S.I. 536, cleri in Philadelphia were assigned to some horsemen (*ἱππεῖς*) by order of a certain Dikaeus. In these assignments Zenon, as the man responsible for the whole territory of the village, took an active part, here again fulfilling the duties of the village administration.

Moreover, others than soldiers received land grants in Philadelphia. Such was a certain Artemidorus, without doubt identical with the housekeeper (*ὁ ἐπὶ τῆς οἰκίας*) of Apollonius. He sends to Zenon in the year 33 a very interesting letter (P.Z. 42) which was written in Sidon where Apollonius with Artemidorus in his train was accompanying the Queen, probably Berenice, to her royal husband in Syria. Artemidorus informs Zenon that he will soon come to Philadelphia, asks him to make all necessary preparations and meanwhile to take care of his house and land. The house is almost ready, the roof only is not yet finished. The land is sown, and Artemidorus is anxious about the harvest. Some money is due to Artemidorus from his sesame and croton. He possesses some cattle: draft cattle (*ζευγάρια*) i.e. oxen and cows, calves or pigs (*ἱερεῖα*) and geese. He is coming in a horse carriage, and asks therefore that barley be purchased for the horses and honey for himself. Thus we see the complete and extensive husbandry of a civilian not an officer of the army.

Men of similar standing are enumerated in the interesting document P.S.I. 626 (no date), along with natives who had emigrated to Philadelphia from other parts of the country; the document is a list of payments for the cattle owned by these persons. In this document we meet a man from Soli, in Cilicia, one from Lacedemonia, another from Kalynda in Caria, Jason by name, of whom more later, one native of Sicily, one of Cyrene, and, of course, Zenon himself.

Of the relations existing between these Greek landholders and Apollonius, we are ignorant. The question is, to what extent, in their relations with the officials, were they dependent on the administration of the village concentrated in the hands of Zenon.



Thus Apollonius, after having received his large clerus in Philadelphia, became automatically the head of the village of Philadelphia. To his care all the land assigned to the village and all the population of the village were entrusted. In the next chapters we shall try to define with more precision the relations between the holder of the *δωρεά* and the population on the one hand, and the relations between the holder and the regular administration on the other.

So far we have discussed the *δωρεά* of Apollonius at Philadelphia. But Apollonius possessed another *δωρεά* in the Memphite nome. What do we know about this *δωρεά*? It is hard first of all to locate this *δωρεά*. We shall see later on in dealing with the different departments of Apollonius' husbandry that the management of this second estate of Apollonius did not differ very much from that at Philadelphia. But there are insurmountable difficulties in finding out what territory this estate included. Apollonius and Zenon have important economic interests in the city of Memphis. A large woolen factory seems to be situated in the city (P.Z. 24, 30). Payments are made in barley to the *πρεσβύτεροι* of Memphis, all men with Greek names, P.S.I. 627. Goods destined for Apollonius are sent from abroad not to Alexandria but to Memphis, P.S.I. 594, 5 (cf. 615 and 619). Apollonius has a special interest and takes special care of the dykes built by a contractor in and near the city of Memphis (P.S.I. 488), and in the letter which this contractor sends to Zenon together with his offer to undertake the work, he writes of himself as receiving a salary from Zenon and thus depending on Apollonius and Zenon. The fact that the offer to undertake the work of keeping the dykes in order, at Memphis is addressed, not to the regular administration of the nome but to Apollonius directly, and that the contract between Apollonius and the contractor is subject to the subsequent approval of this administration, the oecosome and the engineer, is indeed peculiar. We know from the Petrie papyri that the contracts with the contractors for work done on dykes and canals were concluded by a special commission consisting of the officials of the nome. And actually how could the dioeketes manage to conclude all these contracts himself? There is no other way to explain this contract than

by assuming that the work was done for Apollonius in the first instance and that the State entered into it only as the controlling power.

Moreover Apollonius has a special interest in the religious life in Memphis. P.S.I. 531 is a letter of the priests of Astarte in Memphis asking for help in getting some oil and κίκε on the same conditions as those granted to the Carians and Hellenomemphites. It may have been the duty of Apollonius as a dioeketes to grant the oil. But what is the reason for this document being in the archives of Zenon if not because the private interests of Apollonius were involved in this request? I am reminded in this connection of the request of the priests of Aphrodite-Isis (P.S.I. 328) who probably resided not in the Arsinoite but in the Memphite nome.

On the other hand we have some documents testifying to a special connection of Zenon with Sophthis, a village in the Memphite. I have quoted already a document about the cat-feeders of Sophthis (P.S.I. 440). Another document speaking of the same village is P.Z. 25 (year 30). A slave-girl, Sphragis, was robbed on her way to Sophthis from Memphis or perhaps from Philadelphia, and asks Zenon to give an order to Leontiscus, the chief of police at Sophthis to restore to her the things stolen from her. Another village of the same nome, Moithymis or Moiethymis, is also frequently mentioned in the correspondence (P.S.I. 341, 10; 346; 354; 587, 4; 629, 6; P.Z. 52). It must have been situated near Sophthis, as we hear in P.S.I. 346 of the same Leontiscus being chief of police in Moithymis also. Apollonius seems to have owned in Moithymis large herds (P.S.I. 346 and 354) and arable land (P.S.I. 629). I do not know to what part of the nome to assign the village Taitaró situated certainly in the Memphite nome; Apollonius is asked by the peasants of this village to build a dyke for them. Nor do we know the exact situation of Taskry of the same nome (P.S.I. 380, comp. 374) which perhaps formed a part of Apollonius' δωρεά (P.S.I. 682).

No definite conclusions can be drawn from the evidence quoted above. I am inclined to assume that Apollonius had some land granted to him in the neighborhood of Memphis and held at the same time Memphis itself as a δωρεά. But I fully

realize how casual such treatment of the ancient capital of Egypt might appear, were it not for an intentional degradation of this city by Philadelphus and for an attempt at its Hellenization or internationalization (see the Φοινικαίουπτιοι, the *Kâres* and the Hellenomemphites of P.S.I. 531 and the Συροπέρσαι, the *Karikôn* and the Hellenion of P.S.I. 488; cf. P. Lond. I, p. 49 and Wilcken, *Grundz.*, p. 18).

## VI. THE ESTATE OF APOLLONIUS AT PHILADELPHIA

### PREPARATION OF THE ESTATE FOR CULTIVATION

A lively correspondence with the different persons associated with the *δωρεά* of Philadelphia was maintained by Zenon during all the time of his residence there. Moreover we possess his correspondence with Panakestor of the year 28 and especially of the year 29 as well as the letters of Panakestor for the same period which Zenon as his successor found there and kept in the archives of the estate. Our information therefore, even for the years 28 and 29, to say nothing of the following years, is very good.

As this correspondence shows, in the years 28-30 much important work was done on the estate; of special importance were the extensive works designed for the regular irrigation of the land, and buildings erected in the village itself. Regular husbandry was of course carried on at the same time, but we hear most of the constructional activities mentioned above.

One of the most instructive documents of this period, one which permits us to gain an interesting insight into the life of the estate in the year 29, is P.S.I. 500 (cf. 501 and P.S.I. VI, p. XVII; the same men, Panakestor, Maron, Damis, Etearchus, Sostratus, are mentioned also in P.S.I. 613). The letter bears the address, "To Zenon," and the docket, "Maron to Zenon." "About Diodorus and the constructions and about Damis and the land. Year 29, 14 Daisios, in Alexandria." At the time of this letter therefore Zenon was in Alexandria. "Maron to Zenon greetings. If you are in good health and everything else is going according to your wishes, all is going as I would have it. I am in good health myself. Apollonius writes to me in his memorandum that the affairs of the constructions are in the hands of Diodorus and those concerning the land in the hands of Damis. The constructions are not yet finished, but the gathering of the crops, the cutting of brushwood, the planting of sesame, the firing, the planting of kiki (are going on or are finished). All the expenses for the last operations go through the hands of Damis and Etear-

chus and their brother Sostratus, and the day-expense is sealed by them. But Diodorus *contradicts every day more than is reasonable* (this phrase is then cancelled by the writer) makes difficulties all the time, but nevertheless the expense is registered daily. About the rest Jason and Panakestor himself, to whom I wish a happy arrival, will inform you. Be in good health. Year 29, Pachons 14."

Apparently Zenon is still in Alexandria in the month Daisios of the year 29 and he is expecting the arrival of Panakestor in Alexandria. Maron meanwhile writes him a letter to explain the situation in the estate after Panakestor had left. Important work is going on, both constructional and agricultural. In this work the regular administrative officials of the estate cooperate with two persons: with Diodorus for the constructions, and Damis for the work on the land. Damis and his brother Etearchus are well known as the nomarchi of the district where Philadelphia was situated. This implies that Diodorus was not an agent of Apollonius but a kind of state official. The duties of these two men are to supervise the expenditures; they register the expenses daily and testify to the exactness of the accounts by their seals.

Diodorus controls the building activity in the estate. The character of these buildings is not defined in the papyrus; it says simply *ἔργα*. An answer to the question as to what kind of building activity is meant, is given by a Zenon papyrus and by the papyrus Lille 1. The first document (P.S.I. 496, comp. Edgar in P.S.I. VI, p. XVI) of the year 28, speaks of constructions in the village itself, certainly houses and other buildings of a similar kind, as *ἔργα λίθινα*, *πλίνθινα* and *ξύλινα* are mentioned (stone, brick, and wood work). The second document (P. Lille 1) of the year 27, remains still unexplained. The heading says that the writer of the document is a certain Stotoetis the secretary (*ἀντιγραφεὺς*) and that the document is addressed to Apollonius. The document is countersigned by Diodorus. The body of the document contains a chart of a plot of land of 10,000 arurae with indications of the dykes and canals to be constructed. The plot has a quadrangular form (*πλινθεῖον* or *πλινθιον*); it is measured and subdivided according to the technique with which we are familiar from the Roman

Gromatici.<sup>52</sup> The text gives a description and an estimate of the work of constructing the dykes and the canals indicated on the map. Moreover there are two estimates of the probable expense according to different conjectures as to the time required for completion of the work. An appendix deals with an estimate of the cost of maintenance of the constructions already existing on the plot, subject to verification and approval by the engineers and the royal secretaries. All the estimates are rough and merely approximate. The writer says that they will be specified in detail in special contracts (*μισθώσεις*); in one of the two estimates the writer says, "we shall indicate this in the contract, i.e., the measurements and the supplementary expense;" and in the second estimate, "it will be included in the contract, when we know the measurements of the land in these places and the length of the sides." The last lines of the papyrus contain the approval of the estimates by Apollonius and a brief postscript by someone else, probably Diodorus, who describes his journey at first in the company of Apollonius and afterwards alone, from an unnamed place to the Labyrinth and to the city (*ἡ πόλις*).

Edgar was the first to see that the Lille papyrus deals with the estate of Apollonius, and that the Apollonius named therein is Apollonius, the dioeketes.<sup>53</sup> I think that his hypothesis is perfectly correct. The presence of Apollonius on the spot, the active part taken by him in the whole affair and his written approval show that he had a particular interest in the plot of 10,000 arurae. Furthermore the Apollonius of the papyrus is a great man: note the reverence with which Diodorus speaks of him. Moreover, the size of the plot coincides with the size of Apollonius' *δωρεά*, and the man who acts as financial supervisor bears the same name as the supervisor of some works on the estate in the year 29. The coincidence is so complete that there is not the slightest doubt that the Apollonius of our papyrus is Apollonius the dioeketes, that in the year 27 he went to inspect his grant and with the collaboration of the

<sup>52</sup> See Wilcken, *Arch.*, III, 218. In P. Giess. 15, 2, early second century A. D., such a map is called *δεῖγμα*; cf. P. Tebt. I, 82 and P. Meyer, P. Giess., II, 53.

<sup>53</sup> Edgar, *Annales*, XVII, 211 and III, 34.



local administration, to formulate a plan and an estimate for the complete irrigation thereof. Who the author of the plan and estimate approved by Apollonius was, we do not know. He was the secretary of one of the local officials, but of which one? The greatest probability speaks for the *oecome*, the chief manager of the economic life of a *nome*.

Thus Apollonius' new estate was a *πλινθέων* of 10,000 *arurae*, not wholly desert since there are some dykes and canals on it, not entirely uncultivated and not devoid of population; that there were cultivators there I shall show later on; but it was not yet fit for intensive cultivation. A series of water-works was needed for making the plot cultivable in its entirety. How this improvement of the estate was to be achieved is shown by the chart and the estimates of P. Lille 1.

The important work of systematic irrigation of Apollonius' estate was decided upon in the year 27. Who was to carry it out? In P. Lille 1 it is foreseen that minute calculations and estimates would have to be covered by special contracts. Therefore special contractors are regarded as necessary for carrying out the work. The publishers of the papyrus and most of the scholars who have dealt with it have generally supposed that these contractors were business men who took over the construction of the dykes and canals for certain payments. In this way for example the constructions planned and supervised by the engineers Kleon and Theodorus had been carried out. These contracts were concluded between a special commission of government officials and the contractors; the conditions were payment of half the sum in advance to the contractor, and furnishing of tools and implements. Apparently the same method was projected in the document, P. Lille 1. On the verso l. 4 ff. where the author speaks of the works already existing on the plot, he says that the cost of the existing works, if they fit in with the new system, should be deducted from the sum which was due to the *μισθούμενοι*, the contractors. But in the second version of the same *clausula* the words are slightly modified and instead of *οἱ μισθούμενοι* appear *οἱ γεωργοί*.

Starting from this reference to the peasants or farmers of the land (*γεωργοί*) Wilcken supposed that the work was given out not to special contractors but to farmers of the land and

that the obligation of carrying out the work was to be included in the contracts of lease to be concluded with the local peasants.<sup>64</sup> Such obligations are met, he says, sometimes in land lease contracts of the Roman time. I think that the hypothesis of Wilcken is not the most probable. The Roman contracts never speak of new works but always of the maintenance of the old ones, and the reference to peasants in P. Lille 1 does not imply that they were the contractors. This reference means that the cost of the old constructions should be deducted either from the sum due to the contractors or, which amounts to the same thing, from the pay of the peasants who worked for the contractors either as subcontractors or as workmen (*σώματα*); these peasants, according to the general rule prevailing in Egypt, rendered compulsory but paid labour.

The evidence which is furnished by P. Lille 1 is confirmed and completed by some Zenon papyri mainly of the years 29 and 30. In P.Z. 20, Zoilus the oecosome asks Panakestor to send Komoapis the engineer to Tanis where a dyke needed repair. Komoapis therefore must have been the engineer who managed the irrigation works at Philadelphia. The same Komoapis, to whom in one papyrus is given the title of engineer (Edgar, P.Z. 30, Introd.), reports to Zenon in the year 30 (P.Z. 30) of his having concluded a series of contracts (*διάπρασις*) with different persons for irrigation works to be built at Philadelphia. A receipt of one of these contractors of the year 29 is preserved in P.Z. 23. The type of the contract and the methods of payment are identical with those of the contracts concluded by Kleon and Theodorus.<sup>65</sup> Under Komoapis, or perhaps along with him, worked another engineer and contractor, Petechon, also of Egyptian origin. Petechon appears as a general contractor (*ἐργολάβος*) in the papyrus mentioned above (P.Z. 30). He is mentioned also in a papyrus of Florence (P.S.I. 571, 4) along with a certain Pyron (cf. P.S.I. 418) and twice in the Petrie papyri. One of these letters, of the year 30 (P. Petrie II, 13, 4—III, 42(c), 6), is from Klearchus to the chief engineer Kleon with an appended letter of Petechon,

<sup>64</sup> Wilcken, *Arch.*, III, 218.

<sup>65</sup> P. Petrie III, p. 117 ff., the contracts of Theodorus; P. Petrie III, 42 (F), year 33; II, 18 (a) and (b); III, 42 (G), 7.

ὁ ὑπαρχιτέκτων or sub-engineer. A part only of this letter is preserved. This part deals with the letting out of some works between Philadelphia and Patsonthis. To carry out these works Petechon was appointed by Apollonius the dioeketes himself, ἐ]φ'ὧν ἡμᾶς καταλείπει Ἀπολλώνιος ὁ διοικητής; they were, of course, works for the δωρεὰ of Apollonius. The letter of Petechon is scornful. He reproaches Klearchus and Kleon with their quarrels for which the responsibility will fall upon him, Petechon (διὰ τὴν ὑμετέραν ἀψιμαχίαν ἐμ[ε] ἐν ἐγκλήμασι γ[ίνεσθαι]) and adds that until the dull mind of Klearchus grasps the situation the works may suffer. Such language is only comprehensible if Petechon was protected by the authority of Apollonius. In the same year Petechon works in the same places as stated by P. Petrie II, 6—III, 42, 7. This document shows the kind of works Petechon was engaged upon: first the great canal of Kleon, which irrigated sandy land (ὑφαμμος γῆ), and a complicated drainage system for the recovery of marshy land (τενάγη) by means of ditches (ὄχετοί). The land which was salty (ἀλμυρίς) was of course hopelessly unproductive (P.S.I. 639).

The whole system of work within the limits of Apollonius' estate lies therefore clearly before our eyes. The work is done under the supervision of the regular engineers of the nome, Kleon and his subordinates. The manager of the region covering the estate of Apollonius is Komoapis. The general contractor and one of Kleon's staff of engineers as well, is Petechon, to whom the works in and around Philadelphia were given out by Apollonius himself. Petechon in his turn gives out parts of the work to small contractors some of whom were local peasants; but he works also by means of compulsory labour as is shown by P.S.I. 337, where a certain Horus, deka-tarch or foreman of a ten, receives the same sum for the same amount of work as the contractors in other papyri, namely 4 drachmae.

The same system of irrigation work seems to prevail in the Memphite δωρεὰ as well. In the year 28 Addaeus writes to Zenon that the peasants of Taitaró are asking that irrigation work of the same kind as that done in other parts (of the δωρεά?) should be carried out on their lands, according to the

promises of Apollonius. Addaeus urges that the work be begun at once, as later on it would cost more (P.S.I. 486). I have dealt already with the interesting document P.S.I. 488 of the same year. The contractor who here addresses Zenon and Apollonius and wants the work on the dykes to be given to him, proposes exactly those conditions with which we are familiar from the other papyri quoted above. As in the P. Lille 1, he makes his work subject to the approval of the oecome and the engineer. He is probably already working somewhere in the neighborhood, as he informs Zenon that he is busy in registering (*ἀπογραφή*) the *σώματα*, i.e., workmen furnished by the population.

If it is now asked, who paid for the irrigation work done on the estates of Apollonius, I must say that I have no answer to this question. We must not forget that the *δωρεά* of Apollonius at Philadelphia consisted of two parts: his clerus, the 10,000 arurae, and the territory under his control, that is, that of the village of Philadelphia and perhaps of other villages. In the documents quoted above Apollonius is busy in organizing work not only in Philadelphia but as far as Tanis and Patsonthis. That is probably the reason why the work done at Memphis, although given out by Apollonius, was paid for by the treasury while the work done at Taitaro was probably paid for by Apollonius himself.

Many data in the Zenon papyri allow me to believe that the work on the 10,000 arurae was paid for either by Apollonius alone or according to a complicated system whereby certain revenues from the *δωρεά* were used in payment for the construction of the irrigation works. The fact that it is Apollonius who accepts the estimates of the work to be done, that the work is given out by his agents and the state engineers, that Horus in P.S.I. 337 is paid by the administration of the estate, and many other details lead me to believe that it was Apollonius who paid for the work. On the other hand the supervision of the work by the officials of the nome, especially by the engineers, and the presence of two officials in the estate supervising the expenditures for irrigation and agricultural works, show that the State took an interest in the work and probably participated in one way or another in financing it.

I do not deny that sometimes parts of the irrigation work were given out to the farmers of certain parcels of land; for example in P.S.I. 577, Dionysius the farmer of 150 arurae of unirrigated land (ἄβροχος γῆ) is performing some work of reclamation: *κάθαρσις* or *ὑλοτομία* (clearing the land of brushwood) and *περίχωσις* (constructing dykes). However, this is not the main work of reclamation but a kind of supplementary work made possible by the fact that the main work was already done. The same situation is found in P. Lond. Inv. 2094, where peasants are working on a *δρυμὸς* which is situated within the boundaries of the land leased by them from the 10,000 arurae of Apollonius.

I must emphasize the fact that almost the same relations existed between the State and the cleruchi on whose land irrigation work was carried out by the State. Among the contracts of the engineer Theodorus, two documents (P. Petrie III, 43, 2, col. I and II) deal with the lands of the cleruchi. In these contracts before the paragraphs dealing with the warrants, the payment of money and the implements, and after those dealing with the description of the work to be done, there is a fragmentary paragraph, which does not appear in the rest of the contracts. The conditions prescribed by this paragraph are as follows, the beginning being missing: "with the condition that they should pay half of the expense for the work in the third year, the money to be taken from the price of the oil seed which they will pay into the treasury. If they will not deliver their oil seed they shall pay  $1\frac{1}{2}$  times the amount when the money is exacted from them." The publishers of this papyrus suppose that those meant in this paragraph are the members of the commission who gave out the work. But what had the commission to do with the oil seed! Did the members of the commission necessarily deliver oil seed to the State? We know from the R. L. that the *φορτία ἐλαϊκά* were delivered by the producers, who received the price of this seed in money. Now the producers of oil seed in our papyrus are certainly the cleruchi, holders of the lands which were to be irrigated. I presume therefore that these cleruchi were the payers and that the obligation to pay the expense of the work



done on their lands was theirs. The money for this payment was the income which the cleruchi expected from the newly irrigated or drained land. It is not incidental, as we will see later, that the cleruchi covered the expense with their revenues from the oil seed; the oil plants were the best crop to be raised on newly irrigated or drained lands. It is noteworthy also that the cleruchi paid regular taxes for the maintenance and guarding of the water-works on their fields (see, e.g., P.S.I. 344 of the year 30). According to the order of Apollonius quoted in this papyrus they were treated as the peasants were, καθότι καὶ παρὰ τῶν γεωργῶν and the tax was paid from the revenues (γενήματα) of their fields, which revenues were under suspension as long as the payment was pending.

Let me now quote again P.S.I. 500. We remember that along with Diodorus, the supervisor of the expenditures for irrigation works, Damis the nomarch is working on the estate. His duty is the control of the ξυλοκοπία and the ἐμπυρισμός, of planting the oil plants and gathering the crops. Ξυλοκοπία and ἐμπυρισμός are works making the land, already drained, fit for cultivation. Large tracts of land in the neighborhood of most of the new villages were δρυμοί, i. e., pieces of the lake shore overgrown with brushwood, reeds and weeds. There are scores of references to δρυμοί in the Fayum papyri.<sup>56</sup> Almost every new village in the Fayum had its δρυμός or δρυμοί and its shore land, αἰγιαλός.<sup>57</sup> Another name for brushwood land was γῆ ξυλῆτις or ξυλῆς, see, e. g., P.S.I. 502, 28 where γῆ σησαμίτις and ξυλῆτις are measured by Panakestor. In P.S.I. 631, col. II, l. 1, and P. Lille 5, l. 13, land sown with grass was formerly δρυμός. In P. Lille 5, l. 19, land sown partly with sesame was formerly ξυλῆτις; in l. 23 of the same papyrus are mentioned 200 arurae of land where brushwood ought to be cut (ξυλοκοπία). In P. Petrie II, 39 (a), seed of croton was delivered for sowing some γῆ ξυλῆτις near the shrine of Isis of Attinas. The most common kinds of brushwood in Egypt were willows (ἰτέα) and tamarisk (μυρίκη), the latter used frequently for the dykes and bridges. For

<sup>56</sup> The evidence on the δρυμοί was collected by Calderini, *Aegyptus*, I, 56 ff.

<sup>57</sup> I remind the reader of such names as Πτολεμαῖς Δρυμοῦ. Philadelphia also had its δρυμός. P. Gen. 81, 29.



example, a growth of tamarisk is mentioned in P. Magd. 4, year 25 of Euergetes, where some thieving shepherds hid swine stolen by them in a tamarisk growth (l. 3, according to my supplements, says: *καθ|είσαντες εἰς τὰ μυρίκινα*,—having hidden (placed) them in a tamarisk growth). For making such land after drainage fit for agriculture or for pasturage, it was necessary first to cut the wood, *ξύλοτομεῖν* (or *ύλοτομεῖν*, see P.S.I. 577, l. 7 ff., *τὴν τε γῆν ἐ[καθάρευσαν] ὕλης μεστὴν καὶ περιχώσας ἐπότιστα*,—I cleared the soil which was full of brushwood and irrigated it after having constructed dykes). In P. Lond. III, 179, *ύλοτομία* is combined with *θρυκοκία*, cutting of reeds. The second operation was to eliminate the stumps by burning them. This is the operation of *ἐμπυρισμός* mentioned many times along with *ξύλοκοπία* in Panakestor's correspondence of the year 29 (P.S.I. 323, 338, 339, 499, 506, 560; cf. P.S.I. VI, p. IX). *Ἐμπυρισμός* was probably done a year after the *ξύλοκοπία* (P.S.I. 560: *ἐμπυρισμός τῆς περυσινῆς*, i.e., burning out last year's land). One of these operations is mentioned in P.S.I. 667, cf. 564; a girl (*παιδίσκη*) working in the estate writes to Zenon that she is tired of dragging wood (l. 2 ff., *κεκ[μηκνύ]α ξυλοφοροῦσα καὶ ἀλι[εῖουσα]*)<sup>58</sup> but she does not like the prospect of going on strike, as was done by her companions (*οὐ θέλουσα ἀναχωρῆσαι*). It is to be noted that the land thus fitted for cultivation, especially the *ξύλιτις*, was used by preference for planting oil crops, as such land probably gave abundant harvests of oil seed.

The facts quoted above allow us to understand P.S.I. 500. Damis supervises and controls the operations of cutting and burning, and those of sowing and planting sesame and kiki. According to the papyri quoted above brushwood cutting was organized in the same way as the building of dykes and the digging of canals, and was paid for by the administration of the estate. Therefore the part played by Damis in these operations

<sup>58</sup> I can hardly believe in M. Norsa's explanation of *ἀλιεύουσα* as fishing. Some kind of work on the newly gained land is certainly meant. Cf. the reference in one of the Cairo papyri, P.S.I. 629, Intro., to *πελέκεις ἀλιευτικοί*: one cannot easily fish with axes. An operation connected with tree cutting might have been called *ἀλιεύειν*. But I should suggest the reading, *ἀλι[ξουσα]*, i. e., dragging, piling, and gathering wood.

was to supervise the work and to secure the money necessary for it in the same way as was done on the cleruchic land, by supervising the planting of oil plants and by watching the harvest until the work done for the improvement of the estate was paid for by means of the delivery of oil seed to the public granaries. For the same reason Damis controlled the harvesting of other crops, especially wheat (σίτου κατακομιδή). This fact explains, by the way, the extraordinary growth of oil production in Egypt under Philadelphus, the introduction of the monopoly in oil and perhaps the restrictive measures on the importation of olive oil from abroad.<sup>59</sup> Thus the work of irrigation and drainage on the estate, as well as the work of preparation of the soil for agricultural purposes was paid for by the holder of the estate out of the products of the estate; and this explains the necessity for the State having two agents to keep detailed accounts of all the expenditures and of all the revenues of the estate as long as the work of improvement and irrigation continued. Such supervision was probably general on all the *δωρεαί*. The land of the *δωρεαί*, as I have already pointed out, was in no way private land; it remained γῆ βασιλική, and the State was not willing to leave the work on such land entirely in the hands of the landholders, lest the work should be neglected or performed in a way which was not profitable to the State.

Such was the situation on the land given to Apollonius as his clerus of 10,000 arurae. What part he played in the irrigation work of the territory of his *δωρεά* in general we do not know. I would suggest that the conditions were more or less the same, with the single exception that the money was paid from the treasury out of the revenues of the land, the land being farmed to the peasants of the villages of the *δωρεά*. I shall come back to this question in my next chapter.

After the land was once drained and irrigated, the watering from the canals, the operations of opening and closing the sluices, remained under the supervision of the general administration of the nome, that is, under the oecnome and, from the technical point of view, the chief engineer. The whole matter of reclamation of such large tracts of land was too vital to the

<sup>59</sup> See P. Meyer, P. Hamb. 24, Intro.

State to be left to the private management of the holders of the *δωρεά*. This point is fully illustrated by some Petrie papyri. In P. Petrie II, 13, 5—III, 42 (B) 1 of the year 29, Panakestor, the manager of Apollonius' estate, writes a sharp letter to Kleon.<sup>60</sup> Something has gone wrong in the small canal and the administration of the estate is helpless ([*ἡμεῖς γὰρ*] *ἄπειροί ἐσμεν* says Panakestor). Panakestor asks Kleon to come, but Kleon was busy and went straight to the Small Lake (*Μικρὰ Λίμνη*). Panakestor insists on Kleon's coming; he promises to give him men and tools, as there is danger that the land will remain unwatered. The letter ends with the following words: "if you won't come I shall be obliged to write to Apollonius that his land in the Limne is left alone (I read *μονω[θείσα]* which makes good sense whereas Edgar III, p. 14, note 1, reads *μονωτάτη*, which means that the land was exceptionally badly treated) and therefore remains unwatered, although I was ready to deliver everything which was required." Such conflicts between Panakestor and the administration were probably the reason for his being replaced by Zenon. Another document of the same kind probably is P. Petrie II, 13, 11—III, 42 (A) of the year 28. Here it is Zenon who writes to Kleon. He says that the water is high and that he is therefore obliged to open the sluices, probably without the special permission of the engineer (cf. II, 13, 9 and 10, also about opening the sluices).<sup>61</sup>

<sup>60</sup> Cf. Edgar, pt. III, 34.

<sup>61</sup> On the activity of Kleon and Theodorus see U. von Wilamowitz-Moellendorf, *Reden und Vorträge*, ed. 3, p. 361 ff.; A. Bouché-Leclercq, "Cléon," *Rev. d. études gr.*, XXI (1908), p. 121 ff.; Witkowski, *Epistulae privatae Graecae*, ed. 2, p. 1 ff.; K. Fitzler, *Steinbrüche und Bergwerke*, p. 57 ff.; M. Chwostoff, *Public Works in the Hellenistic Egypt, Volume in honour of V. Buzeskul*, Kharkoff 1914 (in Russian); Westermann, *Classical Philology*, XII, 426 ff. and XIV, 158 ff.; A. Calderini, "Ricerche sul regime delle acque nell'Egitto greco-romano," *Aegyptus*, I, 37 ff. No exhaustive or even good treatment of the irrigation work done by the engineers of Philadelphus exists. An investigation of the matter, especially from the technical point of view would be of great value. The independence of the estate as regards the maintenance of the irrigation works is shown by P.S.I. 421, no date. In this document the guards of the dykes (*χωματοφύλακες*) ask Zenon to give them their salaries and their rations of grain (*ὀψώνιον* and *σειτομετρία*). They end their letter with the usual threat: "Thus if you send us our food and salaries: all right. If not, we shall flee. We can stand no more!" The guards were

It is also worthy of note that Theodorus in his request for his salary promises "to work without reproach for the dioeketes" and for the man to whom the letter is addressed (P. Lond. Inv. 2089, l. 16). Who knows if the salary for which he applies is not private remuneration given to the engineer by Apollonius, the holder of the Philadelphia estate?

Such was the organization of the work by which a large territory around Philadelphia, and especially the 10,000 arurae of Apollonius' clerus, were transformed into good arable land, fit for cereals, vineyards, orchards, et cetera; the transformation of land hitherto in part a sandy desert, in part marshy land overgrown with brushwood and reeds, only some of which had been previously watered and drained by the construction of dykes and canals, primarily by the construction of the main canal, the canal of Kleon.

We easily understand why Philadelphus in carrying out this work should proceed by granting large plots of land to his best assistants, who were at the same time important officials of the State. The bureaucratic machine alone was powerless to carry out such a gigantic task. There was great need of a combination of private efforts and energies with the resources of the State. Such collaboration was attained by attracting to this work men like Apollonius. It was the same system as that used in developing the foreign commerce. Apollonius used his energy, his skill, his influence to push forward the work, and other men of the same standing, other myriaruri, did the same in other places. They worked not only for the State,—most of them, new-comers as they were, did not care very much for Egypt as such, but also and mainly for themselves in the hope of enriching themselves without risking too much, backed as they were by the State. And they succeeded by their common efforts in transforming a marshy and sandy land into fields and villages. After they disappeared having achieved their main object,—their own enrichment, the land which they helped to win for cultivation remained in the hands of the State, in the hands of the King. Thus the King achieved his aim too, the enrichment of himself and the State.

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certainly peasants of one of the villages of the *δωρεά* and performed their work under compulsion, receiving their allowance from the estate and not from the Government.

In the estate of Apollonius the work which began in or after the year 27 was probably finished about the year 30, as we hear nothing of dykes and canals being constructed after that year. It may be that this is accidental, but I am confident that the main work was done during these three years. In other parts of the Fayum it continued much longer as the contracts of Theodorus were concluded in the first years of Euergetes.

Along with this work of constructing dykes, digging canals and drainage ditches, cutting wood and reeds, and burning the stumps, the big work of building up the centre of this region, the village of Philadelphia, was going on. We do not know certainly that any settlement existed on the site of Philadelphia before Apollonius received his grant. The fact is probable, as Apollonius went to a place where some canals and dykes already existed and therefore there were probably men working the arable land. But it is certain that only under Apollonius did Philadelphia become a large village, almost a city, as some of the future settlers, to be sure, reverently called the new settlement (P.S.I. 341, year 30: ἀκούοντες γὰρ τὸ κλέος τῆς πόλεως, "having heard of the fame of the city," say weavers who want to settle down at Philadelphia; the same expression is used by some peasants who went to settle at Philadelphia, P. Lond. Inv. 2090, l. 6). Apollonius of course built a residence for himself. We have as yet no papyri which deal with this subject, but Edgar says that the Museum of Cairo possesses such documents. One papyrus at least (P.Z. 21, year 29) speaks of a garden of Apollonius. Apollonius is anxious to make it as Greek as possible in planting the garden olive and the laurel. Along with the palace, scores of buildings were necessary for the estate, stables for the cattle, store-houses of different kinds, wine-cellars, et cetera (see P.S.I. 546, 547). For the religious needs shrines of the Greco-Egyptian type were constructed. Two of them are mentioned: one of Thoeiris, the hippopotamus goddess (P.Z. 47) and one of Anubis, the jackal-headed god (inscription for the health of Apollonius and Zenon, Lefebvre, *Annales*, XIII, p. 93). The royal cult was also introduced and a shrine built for the deified sister-wife of Philadelphus—Arsinoe (P. Lond. Inv. 2314). A necessary work was the construction of one or several market-places usual in all the Greco-



Egyptian villages,<sup>62</sup> not excepting the *δωρεαί*. One of them, named *συνουκία* (P. Petrie III, 73), bears the name of Artemidorus and has a special manager. Had not the village of Philadelphia a market-place named for Apollonius? I shall later speak of public baths and beer-shops, important centres of public life.

At the same time private houses were built one after another. We have quoted already the papyrus which mentioned the house of Artemidorus. Another house of the same kind occupied the interest of Zenon in the year 31 (P.Z. 31). It was built not for Zenon, although he and the members of his staff certainly possessed houses in Philadelphia, but for somebody else. It is a large house of the Greco-Egyptian type,<sup>63</sup> with a court, a monumental pylone, a garden, a special horse-stable—*ἵππων* (the builder was probably a knight—*ἵππεύς*), and a large bakery (cf. P.S.I. 669 where a kitchen, a swine-stable and a press for "vinacia," Italian vinello, P.S.I. 554, note 18, are constructed).

We have seen that Diodorus of P.S.I. 500 was in charge of this building activity. In P.S.I. 496 of the year 28 (cf. P.S.I. VI, p. XVI) he is sending to Apollonius a report about the situation: the brick and stone work are progressing fairly well, but not the wood work. It is a constant problem in Egyptian life that wood is so scarce and difficult to procure, as we shall see below in discussing the ship-building of Apollonius. With Diodorus, Horus, an assistant architect, is making bricks (P.S.I. 625, apparently one of the accounts of Diodorus). The presence of Diodorus may mean that this kind of work was also under state-control and that the expense for it was not entirely on the shoulders of Apollonius, but was covered partly by the revenues of the domain, which were not regarded quite as the private revenues of the land-holder.

It is possible that a certain Nicon, one of the constant correspondents of Zenon, was also connected with this constructive work of Apollonius and Zenon in Philadelphia (see P.S.I. 350, 492, 493, 595, and especially P.Z. 28).

<sup>62</sup> Grenfell and Hunt, *Fayum Towns and their Papyri*, p. 24.

<sup>63</sup> F. Luckhard, *Das Privathaus in ptolemäischen und römischen Aegypten*, (Giessen, 1914); Schubart, *Einführung*, pp. 437, 445.



## VII. THE ESTATE OF APOLLONIUS AT PHILADELPHIA

### AGRICULTURE

A clerus of 10,000 arurae and the supervision of the territory of one or more villages around this clerus was a complicated business, especially in Egypt, where the largest individual tenures of the soldiers did not exceed 100 arurae and the average tenure of a crown farmer was still smaller. It is not an easy task therefore to grasp the mechanism of such an enormous machine in all the details, especially since we have only parts of the correspondence of its chief mechanic, the manager of the *δωρεά*. The complicated character of the business of this manager is depicted in two papyri hastily written and without dates, constituting the agenda of Zenon for the next day (P.S.I. 429 and 430). No doubt Zenon could not foresee everything which might occupy his attention the next day and noted the most important matters only. These documents are instructive snapshots of the daily life of the estate, incomplete and incidental as snapshots usually are but highly interesting and full of life.

In the first note we read (P.S.I. 429): (1) "To ask Herodotus about the goat wool; (2) to ask Ameinias whether he has sold the mina (of wool probably); (3) letter to Dioscorides about the barge; (4) to make an agreement with Timaius about the animals for sacrifice (probably calves or pigs); (5) to sign the contract with Apollodorus and to write that it should be delivered; (6) to have the barge loaded with wood; (7) to write to Jason that he should load the wool and to take care that Dionysius should ship it when cleaned; (8) about the fourth part of the Arabian sheep; (9) to ship also the vinegar; (10) to write to Meliton about the vineyard which is in the care (?) of Neoptolemus, that it should be planted, and to write to Alkimus, whether he approves; (11) to write to Theogenes about the 12 pairs of oxen; (12) to give back to Apollodorus and Kallippus drachmae . . . out of drachmae . . . ." And on the verso of the papyrus: "(13) letter of Metrodorus to Athenagoras about the

produce of the harvest of the same year; (14) the rescript (ἐπιστολὴν) to Theophilus, and about everything concerning the buildings; (15) to write to Jatrocles and Theodorus about the grain before the water of the canal. . . ."

The second slip of the agenda is shorter and written in a different hand (P.S.I. 430): "(1) to receive the olive seed; (2) olive oil from Heragorus; (3) to buy for the horses 4 scrapers, 4 cloths for rubbing, 4 scrapers (of another kind), and 1 scraper for Phatreus; (4) to receive the saplings (or cuttings) of the royal nuttrees; (5) to verify the list of the wine already shipped, for which nomes it is destined; (6) to get back the slave (?) of Hermon."

The agenda of Zenon show how complicated was the husbandry of the estate for one thing. Almost everything is touched upon: grain, irrigation of the land, vineyards, orchards, beasts both for agriculture and for wool, transportation, money, slaves, buildings, et cetera. The agenda also show how little we know about the estate and about the correspondents of Zenon. Of nineteen names recorded in the agenda we find only six in the letters preserved in the archives: Herodotus and Jason (P.S.I. 360) as the sub-managers of the estate, Dionysius as one of the farmers, Neoptolemus (P.S.I. 434, 10) as concerned with the vineyards, and Metrodorus and Athenagoras who were probably officials (P.S.I. 353 and 354).

Nevertheless the data of the letters are sufficient for illustration of every item of the agenda and for completion of the picture sketched therein. Let me begin with agriculture and especially with the production of grains, wheat, barley and others. We cannot fully grasp the importance of this department in the life of the estate. Production of grain was routine work in Egypt and did not absorb very much of Zenon's attention. Nevertheless we have many documents which deal with this branch of the husbandry of the estate.

These documents may be divided into two classes. The first deals with the relation to the estate of the crown peasants, the *λαοὶ βασιλικοί*, who were bound to Apollonius and to his agents by understandings concluded *en bloc*, by collective contracts. In the dealings of the administration of the estate with the peasants an active and important part is played by the state

officials, the oecome and the nomarch. Let me produce our evidence from this class of documents first.

Who these peasants were and whence they came to Philadelphia are questions answered by two documents in the British Museum, P. Lond. Inv. 2090 and 2094, both without date. These documents are complaints of the peasants against Damis the nomarch, some addressed to Apollonius, some to Zoilus. Other documents on the same subject may come to light later as the peasants in 2094 mention that it is their third request addressed to Zoilus, and how many may they not have written to Apollonius? I doubt that there is any connection between these documents and P.Z. 40, as this last letter deals with the peasants of Hephaestias and is dated in the harvest and not in the sowing season. The subject of the complaint is not yet quite clear. The peasants came to Philadelphia from the Helio-polite nome, whether as permanent settlers or for one season only we do not know. They are numerous, as they have more than three elders (πρεσβύτεροι); they formed presumably the population of a whole village (see 2090, l. 3). At Philadelphia they have rented one thousand of the 10,000 arurae, partly brushwood land (δρυμός).<sup>64</sup> They had probably concluded a

<sup>64</sup> The beginning of P. Lond. Inv. 2090 is not clear. The peasants say in l. 2 ff. that they *have* tilled and sown 1000 arurae given to them by Apollonius but the rest of the document shows that they had not. They speak in the document of the prospect of the land remaining unsown in case they receive no hearing or satisfaction. I suppose therefore that in l. 2 ff. they intended to say that they received the 1000 arurae to be tilled and sown but that Damis prevented them from doing so: σοῦ δόντος ἡμῖν ἀρ[ού/ρα]ς ἃ ὡς τῶν μυρίων ὥστε κατεργάσασθαι καὶ σπερεῖν (instead of καὶ ταύτας κατεργασαμένων καὶ σπειράντων) ἀφείλετο ἡμῶν Δάμις ἀρούρας ἃ. The secretary of the peasants was not an expert in Greek. Bell in a private letter suggests that the first sentence may refer not to the current but to the previous year. This suggestion is hardly acceptable, as the last lines of the document show that the peasants had just arrived at Philadelphia from their place, l. 9: εἰκοσταῖοι γὰρ ἔσμεν ἀφ' οὗ ἐνδημοῦμεν βουλόμε[νοι δὲ σπεῖρ]-αι (I am not satisfied with the supplement σπείραι but I cannot find anything better; the context, as I understand it, requires something like ἀπαλλάσσεσθαι) οὐ δυνάμεθα ἀλλὰ ἐξανηλώκαμεν εἴ τι εἴχομεν ἐπιδημοῦντες i. e., "there are now twenty days since we arrived. We intended (to leave) but cannot and we spent during our stay everything we had." It may be that they came regularly each year to Philadelphia; but this supposition also is hardly acceptable.

contract with Apollonius or Damis, the nomarch, before coming. But very soon after they had come their hardships began. They were not allowed by one of the agents of Apollonius (Zenon himself?) to live in the town (πόλις), and they soon started to quarrel with Damis about the working and sowing of the land. According to their confused complaints Damis deprived them of the one thousand arurae, arrested their elders and forced them to sign a *γραφὴ ἀποστασίου*, i. e., a renunciation of the contract.<sup>65</sup> They proposed that he pay them nonetheless as hired workmen, probably as long as they cleared and sowed the land, but Damis refused and preferred that the land should remain unsown. How much of their assertion is true and what was the real point of their quarrel with Damis, we do not know. They were quarrelsome people, these peasants, and they had a good attorney, although not a very literate one, who wrote their requests for them.

But be that as it may, the facts transmitted to us by these requests are of the greatest importance. We see that the land was rented in lots of large extent collectively to a body of peasants, who came from distant places. We see that both the landholder and the peasants were bound by a contract, and that the contract could only be cancelled by a formal declaration by one of the parties to the effect that that party had no claim to the land. We see that in this affair the administration of the nome in the persons of the oecnome and of the nomarch took a lively part, although the contract was probably concluded between the peasants and Apollonius. And we see finally that the peasants were called to work on new soil, part of which was not yet entirely fit for cultivation.

Most interesting is the opinion of the peasants on the management of the estate. "There are," they say to Apollonius

<sup>65</sup> On the *γραφὴ* or *συγγραφὴ ἀποστασίου*, see Mitteis, *Grundz.*, p. 167 ff.; cf. p. 173 and B. G. U., 998; *Chrest.* 252. P. Meyer, *Juristische Papyri* (Berlin 1920), p. 77, gives a full bibliography. In P.S.I. 551, l. 8 ff., the *συγγραφὴ ἀποστασίου* appears as a separate document not connected directly with any purchase or lease. Horus, in P.S.I. 551, obtained such a document from his adversaries through the court; in our papyrus Damis forces the peasants to sign a document of the same kind. Of course before this document was drawn, in each case a sale or a lease had already been concluded.

(2090, l. 7), "lots of mistakes in this business of the ten thousand arurae, because there is no intelligent person to manage the agricultural work. Call some of us up and listen to what we have to tell you," and they say almost the same in the second letter asking Zoilus to give them an opportunity to confer with Apollonius personally.<sup>66</sup>

We meet with almost the same situation in P.Z. 40, year 33. Some land is assigned to the soldiers in the territory of one of the villages of the *δωρεά*, probably not out of the 10,000 arurae; meanwhile it has been rented to a body of *γεωργοί*. These peasants declare a strike in the month of *Χοίαχ* and go to a temple of Isis in the Memphite nome. The nomarch Maimachus is called up from Crocodilopolis to turn them out of the temple (l. 4: *ὅπως ἂν ἐγείρῃ αὐτούς*).

The most important document which deals with this topic is P.S.I. 502 (the year 29). Panakestor writes a private letter to Zenon, who is at that time in Memphis, and sends him at the same time copies of a letter of Apollonius to himself and his answer to this letter. The letter of Panakestor to Zenon is purely private and does not deal directly with the subject of his correspondence with Apollonius. More interesting are the appended letters. Apollonius writes to Panakestor the short sharp letter of a master to a bad servant: "I am astounded by your negligence. You have not written me a word about the agreements on the valuation and on the gathering of the crops. Write me immediately how everything is. The year 29, Artemisius 23, Pharmouthi 30."

The answer of Panakestor contains long detailed excuses and explanations. He received the letter of Apollonius through Zoilus the oecome. On the subject of the valuation and of the gathering of crops he has to communicate the following data. He arrived at Philadelphia on the 16th of Phamenoth,—referring certainly to his journey to Memphis to meet Zenon, and

<sup>66</sup> P. Lond. Inv. 2090, l. 7 ff.: *καὶ οὐκ ὀλίγα δὲ ἁμαρτήματα ἔστιν ὅτι ταῖς μυρίαῖς ἀρούραις διὰ τὸ μὴ ὑπάρχειν ἀνθρώπων συνετόν/ περὶ γεωργίαν. δεόμεθα οὖν σοι εἰ σοι δοκεῖ εἰσκαλέσθαι (sic) τινὰς ἡμῶν καὶ εἰσακοῦσαι περὶ ὧν βουλόμεθα σοι ἀναγγεῖλαι. Also P. Lond. Inv. 2094, l. 5: καὶ εἴ σοι δοκεῖ εἰσαγον [sic,—the imperative!] ἡμᾶς πρὸς Ἀπολλώνιον. ἔστιν, γὰρ τινὰ ἃ βουλόμεθα ἀναγγεῖλαι ὡφέλιμα αὐτῷ.*



immediately wrote to Zoilus, to Zopyrion and to the royal secretaries asking them to come to Philadelphia and to act according to the orders of Apollonius. But Zoilus the oecnome was busy. He was on an administrative tour with Telestes.<sup>67</sup> The royal secretaries and the agent of Zopyrion Paues arrived twelve days after the request was sent. In their presence in the course of five days the land was surveyed according to the holders of the different parcels and to the character of the crops. After this had been done the farmers were called up and the rescript (*φιλάνθρωπα*) of Apollonius was read to them. They were afterwards offered the opportunity to conclude agreements about the valuation, according to the orders sent by Apollonius to Panakestor in a special memorandum, and to make a contract with Panakestor sealed by both parties. They asked for time to consider the proposal, and after four days went on strike, moving into the sacred precincts of a temple, saying that they didn't want any valuation, be it fair or unfair, and preferred to renounce their rights to the crops. They alleged that Apollonius had concluded an agreement with them about the payment of one-third of the harvest. Panakestor and Damis the nomarch tried in vain to persuade them, and both went to Zoilus asking him to come. But he alleged that he was busy dispatching the sailors (to Alexandria?).<sup>68</sup> After four days' absence Panakestor and Damis came back to Philadelphia, and according to the memorandum of Apollonius, as the peasants had refused to accept the valuation and refused also to pay anything in advance, offered the peasants the chance to present their own lower valuation (*ὑποτίμησις*); this the peasants did. These *ὑποτιμήσεις* were sent by Panakestor to Apollonius.<sup>69</sup> After

<sup>67</sup> I suppose that Telestes was the eponyme of the corps of troops called by his name. P. Hibeh 85, 14 and 99, 8. His journey was probably connected with the operation of assigning land to the soldiers of his corps. Telestes himself, as is shown by P. Hibeh 99, 8, had economic interests in Hibeh. The same part is played by Tlepolemus in P.S.I. 513, and perhaps by Pythocles in P. Freiburg 7. Cf. Lesquier, *Rev. d. études gr.*, XXXII (1921), 364 ff.

<sup>68</sup> I speak of the *ἀποστολή ναυτῶν* in my forthcoming commentary on P. Tebt. 703.

<sup>69</sup> I know of no parallel to this practice and of no analogies for the word *ὑποτίμησις* used in a similar connection.



this Panakestor and the royal secretaries began to measure the land to be sown with sesame and the land covered with brushwood. In conclusion Panakestor asks Apollonius not to accuse him of negligence: "your servant cannot be negligent."

The document is best explained by the R. L., in the part which contains instructions on gathering the crop of oil plants, R.L., col. 42, 3-43, 2: "When the season comes for gathering the sesame, croton and cneus, the cultivators shall give notice to the nomarch and the toparch, or where there are no nomarchs or toparchs to the oecnome; and these officials shall summon the contractor and he shall go with them to the fields and assess the crop. The peasants and the other cultivators shall have their different kinds of produce assessed before they gather the crops, and shall make a double contract, sealed, with the contractor, and every peasant shall enter on oath the amount of land which he has sown with seed of each kind, and the amount of his assessment, and shall seal the contract, which shall also be sealed by the representative of the nomarch or toparch." In the following paragraphs (col. 43) the law prescribes that the holders of privileged lands shall deliver to the treasury the whole produce and receive money for it according to the appended list of prices. It is clear therefore that the non-privileged farmers or peasants (*γεωργοί*) were not in this position. One part of their crops was due to the State as payment for the seed grain, another as the rent of the land (*ἐκφόριον*), and the rest was taken and paid for by the State. The aim of the valuation is to calculate in advance how much given fields would yield, how much of the yield is due for seed and for the *ἐκφόριον*, and how large is the part due to the peasant. The system of calculation before the harvest is probably necessary owing to peculiarities of the oil crop. In making the valuation before the harvest the State tried probably to make impossible any tricks by the peasants during the harvesting and threshing. The system was unfair, as the valuation of the yield of a field before threshing is always problematical, and in making the contracts the peasants were not the stronger party.

The same conditions and the same rules form the underlying basis of the affair described by Panakestor. In both cases we

have two parties, the peasants on one hand and the contractor on the other; in our case the place of the contractor is taken by the holder of the estate, Apollonius and his agent Panakestor. The part of mediators and active supervisors is played by the same officials as in the R.L., the oecome and the nomarch. The toparch is not present as we have seen that his functions were fulfilled by Panakestor. The difference in the relations of these different parties to each other in the R. L. and in the *δωρεά*, as a matter of fact is enormous, as at Philadelphia the contractor of the R. L. is replaced by the mighty dioeketes himself, who dictates his conditions both to the peasants and to the administration. This is probably the reason why Zoilus avoided taking any part in the transactions. Nevertheless Panakestor and Damis were not able to force the peasants to accept their conditions, the peasants having recurred to their old weapon, the strike. The peasants apparently did not object to the payment of one third of the produce of the fields. But they objected to the method, to the practices of valuation and of contracts, practices which are identical with those prescribed for the oil crops in the R. L.; whether they objected to the principle of valuation in general or to the valuation proposed by Panakestor we do not know; they insist on not accepting the valuation as such; but the fact that they agreed to present undervaluations (*ὑποτιμήσεις*) seems to show rather that they refused to accept the valuations of Panakestor.

Thus the rescript of Apollonius and his memorandum to Panakestor prescribed the introduction into the practice of the division of the crops between himself and the peasants, the same rules which he himself probably had elaborated for the division of the oil crops between the peasants, and the contractors who represented the State. The only change introduced by Apollonius in this practice, as compared with the R. L., was that the valuation was made not before but after the harvest, with the grain piled on the threshing floors. This is proved by the date of the documents. The whole matter was taken up on the 16th of Phamenoth, that is, at the harvest time (see P. Magd. 12, 3 and the note of the editors), the harvest time occupying in the Fayum, in the third century B.C., the months of Mecheir and Phamenoth. The dealings were protracted deep into the

month of Pharmuthi and were not even ended then. No crops could stand on the fields as long as this. Certainly the harvest was gathered and the grain threshed before the beginning of the whole affair. Was the measure of Apollonius a wise one or not? Judging from the fact that the same system was adopted at the same time by Hiero in Sicily and a little later by Ptolemy the son of Lysimachus at Telmessus, we may say that from the point of view of the State the measure was at least profitable. But the Verrinae show that it was profitable for the State only, the tillers of the soil protesting constantly against this practice. The reason was that the two contracting parties were not equal. Once the third party,—the officials, were on one side or were forced, as in the Verrinae, to yield to the pretensions of one side, the peasants were hopelessly cheated. The letter of Panakestor gives a splendid commentary on the complaints of the population against the contractors who were the agents of Verres, the governor himself. The part of Verres is played by Apollonius. Whether he was as unfair to the peasants as Verres was we do not know.<sup>70</sup>

Did Apollonius introduce the practice of valuation and contracts for the *δωρεὰ* only, or perhaps for his own *δωρεὰ* only, or was it the adaptation of a general rule, of a *νόμος* to the *δωρεὰ*? The question is of enormous importance. But we are not able as yet to give any definite answer to it. The practice of the later Ptolemaic times seems to exclude any participation of third persons, of contractors, in the gathering of the rent from the peasants. But we must reserve our judgment.<sup>71</sup>

<sup>70</sup> On the *Lex Hieronica* and its relation to the legislation of Philadelphia, see Rostowzew, *Studien*, p. 233 ff.; Frank Hewitt Cowles in his book, "Gaius Verres," *Cornell Studies in Classical Philology*, no. 20 (1917), ignores my treatment of the subject quoted above; J. Carcopino, *La loi de Hieron et les Romains* (Paris, 1919). On the law of Telmessus see my *Studien*, p. 278 ff.; Cohen, *De magistratibus Aegyptiis*, p. 12 ff. The P.S.I. 502 is a new illustration of the idea which I formulated repeatedly,—that in their administrative reforms the different Hellenistic rulers moved on the same lines and followed the same principles. I should not be surprised if a law similar to those of the Ptolemies and of Hiero appeared somewhere in Asia Minor as a *lex Attalica* or *Antiochica*.

<sup>71</sup> M. Rostowzew, "Kornerhebung und Transport in ptolemäisch-römischen Aegypten," *Arch. f. Papyrusf.*, III, p. 207; Pauly-Wissowa-

Conflicts of this kind between the peasants and the holders of the *δωρεὰ* were constant at that time. Another clash is referred to in P. Z. 35 (year 31). The peasants of Hephaestias went on strike against Damis. They complained to Apollonius but Apollonius was not able to appear personally and sent a judge, the chrematist Peton, before whose court the peasants had to appear. In all the papyri referred to above the nomarchs, especially Damis, appear in the rôle of agents of Apollonius, as men who manage the relations between Apollonius and the peasants. We must not forget that in P.S.I. 500, Damis and his brothers are the men who supervise the agricultural affairs in the *δωρεὰ* of Apollonius. Undoubtedly Damis acts in the London papyri, in P.S.I. 502 and in P.Z. 35, in the same capacity, as a state agent forming a link between the State and Apollonius.

We do not know whether the peasants of Hephaestias and the peasants of P.Z. 40 worked on the land which belonged to the 10,000 arurae, or on the territory of Philadelphia not included in the ten thousand, or on the territory of one of the adjacent villages which formed a part of the *δωρεὰ* of Apollonius. One of the London papyri seems to show that the 10,000 arurae, as is natural, formed a well defined territory which was just the territory of the village of Philadelphia. In P. Lond. Inv. 2088, Psenemus, perhaps identical with Psenomus mentioned at the bottom of P.Z. 40 as a man who was probably connected with the affair of the peasants of Hephaestias, writes to Zenon (year 31?) about some quarrels between the villagers of Philadelphia (*οἱ ἐκ τῆς Φιλαδέλφειας*) and the inhabitants or farmers of the borderland of the ten thousand arurae (l. 1: *οἱ ἐπὶ τῶν ὁρίων* π [ . . . , cf. l. 2: *ἐπὶ τῶν ὁρίων τῶν μυρί[ων ἀρουρῶν]*) connected with the water supply. The men of the borderland dug some pits to get water and were ill treated by the men of Philadelphia. I think that these borderland men were villagers of Hephaestias and Psenemus was their representative, perhaps the komarch. But in any case we see no important differences, from the economic point of view, in the treatment of both kinds of land.

Somewhere in the neighborhood of Hephaestias was situated another small settlement of peasants, *Διννέως κοίτη*. In P. Lond. Inv. 2097, 37 ff. we meet some *πρεσβύτεροι*, elders of the village, of this place. The peasants of *Διννέως κοίτη* rented their land from Apollonius and paid to him an *ἐκφόριον* (rent). The document deals with a tax in money which they had to pay to the State and which was advanced to them by Zenon and his agent Jason. We shall come back later to this document.<sup>72</sup>

Such is the first class of documents which inform us about the management of the land in and near Philadelphia in the estate (*δωρεά*) of Apollonius. Big tracts of the arable land of the ten thousand arurae, and probably almost the whole of the arable land of the other villages, were leased to groups of native peasants, in part residents of the villages, in part coming for this purpose from the neighboring nomes.

The second class of documents connected with the agricultural exploitation of the *δωρεά* deals not with groups but with individuals, not with peasants as a body but with individual farmers, mostly of native origin, but partly Greeks. Let me first produce our evidence.

One of these individual farmers of the estate of Apollonius was a Greek, *Dionysius*. He is connected with Jason, of whose dealings with the pasture land and cattle breeding, as well as with the lands not included in the 10,000 arurae, we shall speak later. Dionysius appears in three documents, P.S.I. 577 (year 38), 432 (no date) and in the agenda of Zenon 429, 14.

<sup>72</sup> With this series of documents we may compare the fragmentary but very important P.S.I. 490, year 28. Since the names in this document are different from those connected with the Philadelphian estate and since the harvest time is at an earlier date than in Philadelphia, Mecheir the 8th, we may suppose that the document belongs to another *δωρεά* of Apollonius perhaps that of Memphis. We meet again with disturbances at harvest time, but this time it seems that the trouble is with the guards of the crops, the *γενηματοφύλακες*, in which disturbances the peasants are also involved. The trouble results in a strike, but by whom, the guards or the peasants, we do not know. The danger is that the grain gathered on the threshing floors may spoil, may be eaten by worms. An interesting but still obscure point is the reference in l. 11 to contracts (*συγγραφαι*), with some contractors, it would seem (*οἱ ἐξεῖ* . . . probably *ἐξε[ληφόρες]*, i. e., contractors). This would be the first definite mention of contractors occupied in collecting the rent in kind,—the *ἐκφόρια*.



In the two first documents he is called Διονύσιος ὁ γεωργός. P.S.I. 577 is a long letter from him to Zenon full of complaints directed against Jason. Dionysius rented a piece of land of 150 arurae formerly unwatered. He cleared this land of brushwood, built or repaired the dykes and watered the land. It is now sowing time, but Jason does not advance to him the seed-grain, and much of the land is in danger of remaining unsown. One portion of the land Dionysius sowed with his own grain. Another complaint of Dionysius refers to draft cattle. He asked for five pairs of cows; Jason replied that he had plenty of oxen but only one pair of cows. In P.S.I. 432 the same Dionysius is found to have given his 120 arurae to somebody else to till. This man asks Zenon with what kind of crops to sow the land, oil plants, grass or wheat. In any case he needs seed grain in time. Seed grain and its timely delivery seem to be a constant difficulty on the estate of Apollonius.

The conditions under which the second farmer *Psentaes* works are similar (P.S.I. 422). How large was the plot of land of Psentaes we do not know. But the whole plot was never plowed before; "the land is full of gullies," says Psentaes l. 14 ff., "for it was never plowed before." Psentaes is confident that he can sow it all, for the whole land is watered. His difficulties are only that Kerkion, the agent of Zenon probably, does not give him the necessary number of oxen, and those he has given are the weakest ones. He is anxious too lest he should not get seed grain in time. In speaking of his own achievements Psentaes does not fail to hint at comparison with his fellows, *Psenobastis* and *Posidonius*; Psenobastis received the full number of cattle and yet 50 arurae of his plot remain unwatered. He ends his letter with the following proud words, l. 30 ff., "were I furnished with everything (meaning seed and cattle) nobody would work better and speedier than I do, as my father in the Saite nome was always the first among the people there."

The fellow farmer of Psentaes, Psenobastis, works probably under the same conditions as Psentaes, as does the farmer in P. Hamb. 27 (year 36). This last man informs Zenon of the progress of his work. He received oxen from Onnophris and three hired men (μισθωτοί) in addition, who were paid at the



rate of 2 obols for the plowing of one arura, which makes, for 12 arurae, 4 drachmae. But Onnophris did not send him enough grass for the oxen, and he is in need of seed grain; his supply will last two days more but no longer. More complicated is the situation in P.S.I. 400. It is a letter of *Agathon* to Zenon. He writes about 265 arurae which are rented by Petobastis. Petobastis is a debtor of the treasury and there is danger that the land may be confiscated. Agathon tries to show Zenon how to make a profit out of this land and proposes two solutions of the problem. First, he would pay 10 artabae for one arura of land sown with cereals taking care himself of the ἐκφόριον to be paid to the State. Or, he is ready to pay 10 drachmae for one arura, Zenon paying 4 drachmae as rent to the State. One hundred arurae would be fallow land. Agathon would pay for it in kind if Zenon would pay the rent; if not, he would pay in money, three drachmae for one arura, and in addition would give "for nothing" the grass for Zenon's cattle, probably the cattle used for plowing the land. Besides, Agathon asks for a salary, ten drachmae a month. According to P. Lond. Inv. 2095, l. 1-2, Petobastis was a farmer of the land situated in the territory of the Σύρων κώμη (emigrants from Syria?).

The evidence which I have produced shows that individual farmers of large plots received for the most part new land, still unplowed and unsown. They rented the land on the condition that seed grain and cattle would be furnished by the landholder, the farmer furnishing probably his manual labour only. The payments of the farmers consisted of the land tax or rent to the treasury, of some payments in money to the State also, probably for different taxes like the dyke tax, the guard tax, et cetera, of the repayment of advances (of seed grain, for example), and of a rent to the landholder. P.S.I. 400 shows that different combinations were possible and were used in making these payments.

The management of the seed grain was a particularly difficult and complicated matter, and here again there seems to be a kind of collaboration or control on the part of the State (see P.S.I. 603).

The fundamental fact which emerges from both series of documents quoted above, is that the arable land which belonged

to the *δωρεά* is regarded altogether as state land, *γῆ βασιλική*, and paid everything which was due by the state land in general, rent, money taxes to the State, and all the rest. But over the peasants and farmers who worked on the land stood the landholder, the master of the *δωρεά*, who appeared as a kind of general farmer of the land; he rented the land to the farmers, provided the farmers with seed grain and cattle, and received from them a rent, of which the rent due to the state formed one part and the smaller part only. There seems in this respect to be no difference in principle between the situation of peasants who rented the land collectively and that of the individual farmers.

One of the collective contracts stipulates the payment of one third of the produce to the holder of the *δωρεά*, whereas the individual contracts vary as regards the amount of the rent, probably according to the condition of the land. In the case of the collective contracts we do not know who furnished the peasants with the seed grain and the cattle, whether the landholder or the State, but probably it was the State. In the case of the individual farmers it was generally the landholder. In both cases the rent to the landholder was paid subsequent to the payment of the rent and of the taxes due to the State. The methods may have varied. The state payments might have been included in the rent and paid by the landholder, or paid by the farmers first, before the payment of the rent; but the main fact remained unchanged: the State received its revenue and received it first.

Under this assumption only can we understand the part played by the nomarchs and the oecosome in the management of the land rented to the peasants. They were there to guarantee the prior interests of the State. It may be that as long as the irrigation works were being constructed on the land, the whole revenue both of the State and of the holder of the *δωρεά* was used to cover the expense of this work. But even after this had been done the nomarchs remained as the supervisors of the agricultural work, at least as far as the crown peasants were involved in it. I have already pointed out that every document dealing with the crown peasants mentions either Damis and Etearchus, the brother nomarchs, or Maimachus their col-

league, or Sostratus the third brother of Damis and Etearchus (cf. P.S.I. 613). In P.S.I. 598 for example, Sostratus, as an agent of Zenon and Etearchus, in his quality of nomarch is busy collecting and buying up grain probably for furnishing the seed (cf. P.S.I. 356, where a farmer of the *δωρεά* complains that he cannot buy grass seed because of the competition of the oecome who is buying up seed for the treasury).

Of great importance for this question is P. Lond. Inv. 2097, a report of Jason, a sub-manager of the estate under Zenon. The report is divided into three paragraphs. The first deals with cattle owned by Apollonius and in the care of Jason. Jason owes to the State the pasture tax (*ἐννόμιον*) and the guard tax (*φυλακτικόν*), and has no money to pay these taxes. He proposes instead of this payment to give the oecome the produce of the garlic plantations of the peasants of Hephaestias. But Etearchus the nomarch objects that this produce does not belong to Apollonius but to him, since he was the man who furnished the seed (*χορηγέιν*, a technical expression for furnishing seed grain). After he receives the rent and his loans to the peasants, Zenon and Jason may take the rest. Apollonius appears here again as the holder of the land but along with him the state agents, the oecome and the nomarch, represent the interests of the State, and their claims come first.

I should like to draw the attention of the reader again to P. Lond. Inv. 2097, 37 ff., the same document, but to the last paragraph. The elders of the village here owe money to the State, which was probably advanced to them by Zenon to be covered at the time of the payment of the rent.

Certain relations between the state and the individual farmers of the *δωρεά* are illustrated by P.S.I. 356, year 33. *Nicanor*, probably a farmer, makes his payments in grain to the treasury through the keeper of the storehouse, the sitologue, and through a cheiristes, a collector of arrears, subordinate to the sitologue. These payments represent either his whole rent, to be divided afterwards between the State and the landholder, or the part due to the State only (cf. P.S.I. 371, year 36).

The relations of the peasants with the administration of the *δωρεά*, as well as with the state officials are not very friendly. Strike after strike, complaints, requests, trials, are the order of

the day. The scape goat of the peasants is Damis the nomarch. The peasants of course do not dare to attack Apollonius personally but they constantly quarrel with Damis and Panakestor, the predecessor of Zenon, and with Zenon also. The cause of these quarrels is evident. The peasants were mostly new settlers in the Arsinoite. Moreover, the State constantly introduced new rules which the peasants interpreted as being directed against them. Finally the peasants had to deal with a complicated system of officials and private agents who certainly did not work together very smoothly, and each one of whom never forgot his private interests. No doubt, in all these dealings the peasants were the sufferers. Nobody cared how much of the produce of the land the peasants could retain; the state agents were anxious to get the regular payments for the State in full; the agents of Apollonius tried to get as much as possible for their master and for themselves. No wonder that the peasants were cheated very often and that a suspicious, dull mood characterized their relations with the administration and the landholders, just as in Russia under the old régime and now under the bolsheviks.<sup>73</sup>

Does it mean that the state as such did not aim at protecting the interests of the peasants as much as possible? Not at all. Such laws as the νόμοι τελωνικοί of Philadelphus show that the State was anxious to regulate as far as possible the collection of the taxes, to leave no place for the discretion of the officials, to organize courts for dealing with complaints. We have seen how helpless were Panakestor and Damis in confronting the behaviour of the peasants in P.S.I. 502. The quarrel between Damis and the peasants of Hephaestias was settled by a special judge sent to Philadelphia by Apollonius.

But taking for granted this care of the State for the peasants, how can we explain the fact of the creation of large estates, a fact which aggravated the hardships of the peasants and gave no supplementary income to the State? I shall return to this question in my last chapter.

The relations of the administrative officials of the estate with the individual farmers seems to be better. This is not sur-

<sup>73</sup> Rostovtzeff, *Journ. of Egypt. Arch.*, VI (1920) 178, note 10.

prising since the individual farmers worked for their own profit and were free to sever the connection at any moment. They were not cattle like the crown peasants who had no individuality and appear always as a mass.

A large estate of the size of the estate of Apollonius could not be administered by one man. No doubt therefore the whole management was subdivided into departments; Zenon, and before him Panakestor, had many minor agents of different ranks. This assumption is fully confirmed by our evidence.

At the time of Panakestor his nearest assistant was *Maron*, the author of the letter P.S.I. 500 many times referred to. He appears also in P.S.I. 501 and 613 of the same time and in P. Lond. Inv. 2086 (no date) in connection with the management of a bath; the latter papyrus may be safely dated in the year 29, as after that Maron disappears entirely.

Under the rule of Zenon the man who is mentioned about sixteen times in connection with the management of the estate is *Jason*, the son of Kerkion from Kalynda, perhaps a relative of Zenon, who lived in Philadelphia at the time of Panakestor (P.S.I. 500 and 501). His letters are all concerned either with the herds of the estate which grazed on the pasture land of different villages of the territory of the *δωρεά* (e. g. *Σύρων κώμη*, P. Lond. Inv. 2095; Hephæstias, P. Lond. Inv. 2097), or with agricultural affairs mostly connected with lands situated outside of the territory of Philadelphia. In P.S.I. 360 he is busy with Herodotus in collecting grain in the villages of Arsinoë and *Νεανίσκοι*; in P.S.I. 394 he accepts Admetus as a warrant in the sum of 30 art. of barley for a certain Jollas from Berenice; in P.S.I. 577 he is bound to furnish seed and cattle to the farmer Dionysius; in P.S.I. 579 he has to care for grass land; finally in the two documents P. Lond. Inv. 2095 and 2097 (cf. P.S.I. 368, a document of his hand probably, using constantly the same expressions), especially in the second, he is dealing not only with cattle but also with land planted with oil plants, and with other matters. He is mentioned in the agenda of Zenon (P.S.I. 429). Jason was not only an agent of Zenon but had his own business; in P.S.I. 385 he farms a clerus and in 626 (comp. 377, 14) he appears as owner of some sheep. He is closely connected with *Herodotus* (in P.S.I. 517 he is named



alone, and in 360, 368, 429, P. Lond. Inv. 2097, along with Jason). We may safely assume that both were in charge of the herds of the estate and at the same time managed the interests of Apollonius in the villages which belonged to the territory of the *δωρεά*. The combination is a reasonable one as most of the pastures for the herds were situated in the territories of these villages.

Of the same kind was the commission of *Glaukias*, P.S.I. 427, 2; he has to do mostly with live stock and especially with horses and donkeys (P.S.I. 438 and 527), but at the same time he cares for sesame and croton, like Jason (P.S.I. 438), and performs other commissions for Zenon (P.S.I. 439).

Another supervisor of the agricultural work in the estate was *Eutychides*. In the year 32 (P.Z. 37) he was called up by Diotimus the sub-dioeketes to render his accounts. In the year 38 (P.S.I. 522) he reports to Zenon on the conditions which prevail in his department; he says that there is no possibility of sowing more than 340 arurae with sesame, that he expects to receive 600 artabae of barley and about 400 artabae of chick-peas.

Along with these great personages in the life of the estate we have minor ones, some Greeks, some natives.<sup>74</sup> They were probably farmers of some parts of the estate and at the same time had charge of larger plots or sections. They bear therefore often the predicate *γεωργός*, farmer. Such are *Asclepiades* (P.S.I. 365; 388, 61; 636; comp. 427, 18); *Labos*, an Egyptian (P.S.I. 427, 6; in 371 he pays out some grain to different persons occupied in the estate, their rations certainly, — *σιτομετρίαι*); *Onnophris*, another Egyptian, the same man who had charge of the draft cattle in one part of the estate (P.S.I. 427, 12; P. Hamb. 27; P.S.I. 422; 639, where he measures the land near Πρεξ . . . and reports to Zenon); *Kerkion* (P.S.I. 422, 5); and *Pyrrus* (P.S.I. 427, 15; 417; 443; 629, 13; P. Lond. Inv. 2084). The most interesting documents of this series are P.S.I.

<sup>74</sup> Most of them are enumerated in P.S.I. 427,—a list of sacks and bags distributed among different employees of the estate, two of whom were perhaps slaves (*παῖδες*). I do not know why these sacks and bags in small quantities were given to these persons. Was it for collecting and keeping money and other things?



522 and those connected with Pyrrus. At the end of his report (P.S.I. 522) Eutychides speaks about Horus, the son of Onnophris. Horus is the chief of 300 arurae (l. 4: ἐπιστάτης ἐν/ἀρούραις) T) but is comparatively inexperienced and careless. There follows the enumeration of his crimes. Among the documents which are written by Pyrrus we have one (P.S.I. 443) where he complains about the slowness in the payment of his salary, both in money and in kind (ὀψώνιον and σιτομετρία). In the other, P.S.I. 417, a very long and badly preserved one, he protests against his being charged with a payment of 240 artabae of wheat to the treasury on the ground of a statement of Etearchus the nomarch. The payment is certainly due by him either as a farmer or rather as a chief of a section of the estate. The letter is both very amusing and instructive. Nicanor, perhaps the second sub-dioeketes of Apollonius, affirmed that the wrong was done to Pyrrus not by Etearchus but by Zenon. Zenon was first charged with this arrear but (I quote the copy of a letter by an unknown writer appended by Pyrrus to his letter addressed to Zenon, fr. c.) "when I tried to exact the grain from Zenon, Zenon told me to refer the debt to the account of Pyrrus lest this debt might be reported to Apollonius as being that of Zenon" (I read in l. 23 ff., ἵνα μὴ/Ἀπολλωνίῳ ἀν[αφέρῃ]/ται ἐν Ζήνωνι ὀφείλημα). From the documents quoted above we may infer that the sub-managers of the estate were partly officials, as was Zenon himself, partly a combination of officials and farmers. They received a fixed salary, but were responsible for the section of the estate given into their care. Probably Agathon, of whom I spoke above, tried to receive a commission of the same kind (P.S.I. 400).

The revenues of the estate from its agricultural exploitation consisted mainly in grain. One part of this grain was used in the estate itself for paying salaries to the different workmen and officials of the estate and for paying also some taxes (P.S.I. 371); another was certainly sold for money (P.S.I. 492). But I have reasons for doubting that all the grain owned by the estate was freely sold to private dealers in grain. P.S.I. 425 (no date) is a memorandum addressed to Zenon. The first part of the document deals with grain which was sold by Zenon and Diotimus to the toparchi. The trouble is that the quantity of

the grain sold does not correspond to the contract (πρᾶσις), a larger amount than was due being sent to some nomes (I read, l. 7 ff., ἀλλ' εἰς τινὰς {μὲν} νομοὺς ὑπερμεμετρημένον, εἰς instead of ἐτι which makes no sense). And the writer of the document adds, l. 9: "let the grain be registered nome by nome, how much was sold and how much was sent to the nome" (I read ἀ]πέσταλται not ἐ]πέσταλται).

The document is not easy to understand. I would suggest that the grain referred to is the σῖτος ἀγοραστός, the grain which was bought on compulsion chiefly from the holders of military cleri. From P. Petrie II, 31—III, 53 (d) I conclude that the grain of the cleruchi was usually temporarily retained by the government pending the payment of the taxes and released only after this obligation had been met. One of the taxes paid by the cleruchi was εἰς τὸν ἀγοραστὸν οὗ ἡ τιμὴ ἀντιδιαγέγραπται,—i.e., a payment in money instead of in grain (P. Petrie III, 113; II, 30 (a)—III, 131; II, 20, col. II, and 48, 7 and 16). In the last three documents the σῖτος ἀγοραστός is opposed to the φορικὸς (cf. P. Petrie III, 100 (b); P.S.I. 321 and P.Z. 1: σῖτος βασιλικός; Wilcken, *Grundz.*, 357 and *Chrest.*, 241). As P.S.I. 609 mentions a payment εἰς τὸν ἀγοραστὸν καθότι Φανίας συντέταχεν, I venture to suppose that the estate of Apollonius like the military cleri had to sell on compulsion a part of its grain to the State and that this grain was distributed among different nomes less rich in grain. Along with grain there were large amounts of grass and hay which again were to a great extent expended in the estate itself so that the administration had sometimes difficulty in providing its cattle with food. Nevertheless, some hay was sold, see P.S.I. 559, year 29; but this document, fragmentary as it is, may refer not to the sale of grass and hay, but to the renting of hay land.

Thus wheat, barley and other cereals, grass and hay hardly gave a large income in money to the landholder, as most of the produce was paid to the State, retained by the peasants and farmers, spent in the estate as seed-grain, in rations in kind to the administration and workmen, in feeding the cattle and fowl, et cetera. A net revenue in money represented the planting or sowing of the oil plants. Sesame, croton, et cetera, were sown in great quantities in the estate (see, e.g., P.S.I.

499, year 29; 500 (*idem*); 502 (*idem*); 522 year 38; P. Lond. Inv. 2097, l. 22 ff., Artemidorus also has large quantities of oil seed, P. Z. 42). I have tried to explain the great development of oil production. The new land, formerly marsh, was best adapted to oil plants and gave abundant harvests. We have no documents showing any restrictions imposed on the land holder of the estate as to the quantity of land to be sown with oil plants each year. It may be that the State did not impose any, or it may be that our evidence on this point is not sufficient.

As regards the produce in oil seed (*φορτία ἐλαικὰ*), the administration of the estate acted strictly according to the rules established in the R. L. We have seen that in col. 43, l. 11 ff., the R. L. prescribe that the holders of the *δωρεαὶ* deliver to the treasury all the oil seed which they gather, retaining for themselves only the necessary seed grain; in col. 44 they are ordered not to have any oil factories in the villages which belong to a *δωρεά*. What the expression "all the product" really means, I do not know; does it mean the whole produce of the fields including the share of the farmer? Or had the farmer separate dealings with the State? Be that as it may, the question in itself not being very important, the administration of the estate acted as was prescribed in the R. L. In the year 34 Hermolaus the oecnome sends a special agent, Korragus, to Philadelphia to receive the croton from Zenon and to transport it. Zenon has to take care of the donkeys for this transport (P. Lond. Inv. 2079). The letter of Hermolaus to Zenon, which informed Zenon about Korragus, was written on the 15th of Mecheir (harvest-time), and on the 22d of the same month Korragus is active in Philadelphia: he delivers receipts for payment of croton which was certainly gradually delivered to him by Zenon (see P.S.I. 358). The seed was delivered without any preliminary testing of its purity; this work was reserved for the place of destination, a large storehouse provided with good opportunities for the operations of the *κάθαρσις* of the seed. Meanwhile a sample of the seed, ten artabae, was sealed in a special box; according to this of course the money would be paid for the whole lot. The last act of the operation for the estate was the payment by the treasury to the estate of the money due for the seed. It is noteworthy that money

for the seed was paid by the chief agent of the royal treasury in the nome, the chief treasurer Python, a man well known to every student of the Ptolemaic papyri. In P.S.I. 518, year 35, in the month of Mesore, i.e., 4 or 5 months after delivery, he pays the money for the sesame of the same year.

It is noteworthy that in all these operations there is no trace of the farmers of the state monopoly who play such a prominent part in the law of this monopoly.

Since the village had no oil factories the population must have been provided with oil by one way or another by the administration. This task seems to have been fulfilled by a special agent of the administration, ὁ ἐπὶ τῷ ἐλαίῳ, the chief agent for oil. In the year 36 (P.S.I. 372) a certain Horus, son of Petarmotis, a farmer, paid to this agent for the account of Teos, the oil retailer of Sophtis, 8 artabae of sesame. Analogous is the situation in P. Lille 9 where another shopkeeper of the same kind has large quantities of sesame on the ἄλως (threshing floor). In P.S.I. 438 an agent of Zenon Glaukias tries to catch the chief oil agent for regulating some affairs connected with sesame and croton. In this document this man is called ὁ πρὸς τῷ ἐλαιουργίῳ, agent for oil making. He may have been the agent of the State or of the oil farmers to deal with the shopkeepers of the δωρεά, and with the administration of the estate. In what way the shopkeepers came into possession of sesame seed I do not know.

Two documents of almost the same content (P.S.I. 349 and 566) of the year 32, letters of Theokles to Zenon, speak of transactions in oil in which, besides the two correspondents, Zenon the oil farmer is involved. Theokles must receive some oil for the λινοψοί (makers of linseed oil?) and cannot get it without special permission from Apollonius and Diotimus and without a special guarantee from Zenon. This is characteristic of the care the State observed in its transactions in oil and shows how difficult it was to get large quantities of it; the shopkeepers of course were merely retail traders only and sold only small quantities. The guarantee required by Theokles from Zenon shows that Zenon was responsible to the administration and to the oil farmers for observation in the δωρεά of the laws on oil distribution.

## VIII. THE ESTATE OF APOLLONIUS AT PHILADELPHIA

### VINEYARDS, ORCHARDS, AND MARKET GARDENS

The Philadelphia documents of the Roman period discussed in my second chapter show that Philadelphia at that time was an important centre of wine production, that a large part of its territory was planted with vines, with fruit and olive trees. This is also true for the early Ptolemaic period. Under Philopator, as is shown by P. Petrie III, 52 (a) and (b), the territory or a part of the territory of Philadelphia paid for its vineyards as the apomoira tax not less than  $1\frac{1}{2}$  talents.

Extensive viticulture was common throughout the Fayum. The whole nome of Arsinoe was covered with vineyards. Many of them were very large indeed. In P. Petrie III, 67 (b) we meet with vineyards (κτῆματα) of a certain Herakleides which yielded  $898\frac{1}{6}$  metretae of wine; 600 metretae were sold for 1 talent and out of this sum the tax was paid, in amount 1893 dr. 3 ob.; the remainder amounted to 4106 dr. 3 ob. in money and  $298\frac{1}{6}$  metr. of wine. A special manager (ὁ προεστηκώς) runs another large vineyard which belongs to a woman, Eirene. This vineyard yields 200 metr. of wine (P. Petrie II, 30 (e)—III, 69 (b)). Smaller vineyards are mentioned frequently (see, e.g., the document quoted above and also P. Petrie II, 27, 1—III, 69 (a)). The income of the State from these vineyards was certainly very large. For the apomoira of a number of villages in one meris, counting only the βασιλικὴ γῆ (crown land) and the wine valuated in silver, the State received 18,626 dr., and in addition more than 7,000 metr. of wine worth about 20,000 dr. at least. I cannot produce all the data on this topic. It would be a matter of great interest to collect all the material and to investigate it from the historical, economic and archaeological points of view.

The reason for the rapid extension of viticulture in the Fayum and for the gradual transformation of the Fayum into a wine land is easily understood. The owners of the vineyards were mostly Greeks, to a great extent military settlers. Vine grow-



ing, as one of the most prominent features of Greek economic life, was a business with which they were thoroughly familiar. Furthermore, as I have shown in my book on the Colonate,<sup>75</sup> planting of a plot of land with vines, provided permission had been secured from the State, made the plot the hereditary property of the planter (*ἐμφυτευτής*). The State in its own interest encouraged vine planting by the Greek settlers. The State drew from the vineyards a large income in money. Moreover, vine planting meant the investment of capital in the land by the new settlers and so bound them to the land; thus soldiers of the mercenary troops, officials and some adventurous business men were gradually transformed into permanent settlers in Egypt, attached to the land by important economic interests. The wine market was made secure by the growing Greek population of Egypt and the State was glad to supply its wine drinking army with local wine instead of spending huge sums of money in buying wine abroad. The native Egyptians of course remained beer-drinkers as always.

It is worthy of note that the vineyard owners were mostly Greeks; native owners were rather exceptional. I have no reason to suppose that the natives were not inclined to plant vines and thus to become land owners instead of crown peasants. But I have every reason to assume that the State regarded such a transformation without sympathy. We must not forget that for planting a plot with vines special permission of the State was required. I am sure that the State granted such permission to crown peasants only occasionally. In the mind of the Ptolemies, the prosperity of the land depended on the crown peasants remaining state farmers and producers of grain, bound to their place of origin and to their profession.

Vine planting developed rapidly during the early Ptolemaic period. Under Philadelphus large tracts of the newly acquired land were already planted with vines, and this is characteristic not only of the Fayum. A glance at such documents as P. Par. 67 and P. Petrie III, 117 and 122,—lists of revenues of the State from the vineyards,—will fully establish this fact. There is much of general history in this process, of the history of the Hellenization of Egypt under the first Ptolemies. Such modest

<sup>75</sup> Rostowzew, *Studien*, p. 14 ff.



documents as the letter of Alkaeus to Sosiphon (P. Petrie I, 29) are brilliant illustrations of my statement: Alkaeus informs Sosiphon that he planted three hundred vine roots and among them some trees (*ἀναθενδράς*); the plantation is assiduously watered.

Vine planting on a large scale was being carried out on the estate of Apollonius also. In the year 29 (P.S.I. 499) Panakestor received from Zenon a large amount of cuttings or sets, probably of vines. A part of them had already come on twenty donkeys, another part was expected. In the year 34 this operation was still going on; cuttings are loaded on a ship and sent to Philadelphia (P.S.I. 568). Newly planted vineyards are occasionally mentioned in the year 36 (P.S.I. 371, l. 10 ff., cf. P. Lond. Inv. 2313). This planting of vineyards was begun at Philadelphia probably at the very beginning of the existence of the estate, as in the year 30 (P.S.I. 345) vintage on a large scale is going on there. Kritias, probably an agent of Zenon, is writing a hasty letter to Zenon: "They are preparing to gather the grapes. Send guards, not less than ten, and write to my men to help guard. Write also to Hegesianax lest some violence should occur." In the same year we see Damis dealing with large vineyards (P.S.I. 508) probably as a sub-contractor of taxes paid on them (see further below). This last document shows that Apollonius did not stand alone in Philadelphia as a possessor of large vineyards.

How large a part of the estate was planted with vines we do not know. One of the documents mentions a man named Alkimus, a vinedresser, who was the manager of thirty arurae of vines and also of some new vine plantations (P.S.I. 371, 10: "Ἀλκιμος ἀ[μ]πελουργὸς ὁ προεστικῶς τῶν λ [ἀρουρῶν] καὶ τοῦ Γλαύκου κα[ὶ . . .] χου νεοφύτων ἀμπελώνων; cf. P.S.I. 429, 23 ff). Large quantities of wine of different kinds were shipped from Philadelphia probably to Alexandria (P.S.I. 428); two kinds are specially mentioned, Knidian and Chian wine, both famous brands and one virtually Zenon's native wine; with them native wine was also shipped (*ἐπιχώριος*).

Thus we may say that Apollonius was busy in transforming a part of his estate into vineyards planted with the best sorts of Greek vines. There was no danger that anyone would for-

bid his transforming parts of his personal holding into κτήματα, hereditary property, almost a synonym for vineyard, as he was himself both the planter and the one who granted the permission for planting. For a man of such standing as Apollonius it was not risky to invest money in vineyards and to wait nearly five years before the money began to return interest.

How Apollonius managed his vineyards we do not know precisely, but the fact that Zenon with his own hand wrote instructions as to how to deal with vineyards (P.S.I. 624), shows that Zenon himself closely supervised the management. It is a pity that these instructions are in such bad state of preservation, not one sentence being complete. It seems that his instructions were based on scientific Greek treatises adapted to the peculiar conditions of Egypt. We may trace the existence of such Greco-Egyptian treatises in both the Greek and the Roman treatises on agriculture.<sup>76</sup>

On the other hand we have many references to vinedressers (ἀμπελουργοί), mostly Greeks, who received fixed salaries, one of whom, as we have seen, was the manager of a large vineyard. In P.S.I. 336, year 29, three of them, *Peteuris*, *Onnophris* and *Theophilus*, two natives and one Greek, who were both κηπουροί (gardeners) and ἀμπελουργοί (vinedressers), received salaries of 5 dr. for twenty days each. In P.S.I. 371, 10, we meet *Alkimus* mentioned above, who appears also in the agenda of Zenon in connection with vineyards (P.S.I. 429, 23). In P.S.I. 414, *Menon* the vinedresser claims his salary of 3 dr., and complains that he has no other income, from vegetables for example, like the other vinedressers (vegetables often being grown in the vineyards cf. P.S.I. 434). In P.S.I. 628, *Hermogenes* the vinedresser is credited with his salary, as also in P.S.I. 672, are two vinedressers, *Kleon* and *Herakleides*; the latter is also mentioned in the list of people who received sacks and bags (P.S.I. 427, 21,—Ἡρακλείδει <sup>μ</sup>α, this being the abbreviation of ἀμπελουργός or ἀμπελῶν as found in many Petrie Papyri). Finally

<sup>76</sup> Cf. P. Oxyr. 1631. The practice in Egypt, as illustrated by this papyrus, followed closely the general instructions given by the Greek and Roman manuals of agriculture. The basis of these manuals was certainly the work done by the early Hellenistic scientists and practical men, whose work in turn rested upon the theoretical investigations of Theophrastus.

in P.S.I. 629 and 630, we have two documents dealing with implements such as were especially used by the vinedressers: different kinds of axes (ἀξίνας, πέλεις), hoes (δίκελλαι) and spades (σκαφεῖα); the axe is constantly the symbol of wine and of Dionysus on coins of many Greek cities (e.g., Tenedus; see Head, *Historia Nummorum*, 2, p. 551, and Index under *Bipennis*). One of these documents, P.S.I. 630, speaks of these implements being given to Alkimus whom we know as the manager of one of the large vineyards. The same Alkimus appears in P.S.I. 629 along with many other men, the names of some of whom are identical with names of vinedressers found in other documents; one example besides Alkimus, is *Apollonides*, mentioned as a vinedresser in P.S.I. 434, of which I shall speak later. We may safely assume that the other names in this document are names of vinedressers too, *Andron* and *Timocles*, and perhaps *Cheilon*. Almost all of these men are Greeks, all are specialists in vinedressing, each receives a salary and like Alkimus, has to care for a large or small vineyard.

It is probable therefore that most or perhaps all of the vineyards of the estate were managed by salaried Greeks who received their implements from the estate and probably were given the assistance of unskilled wage earners. One seems to be the chief of all, the general supervisor of the vineyards in general. It is *Herakleides*. In two interesting documents (P.S.I. 433 and 434) he appears as the superior of a certain gardener and vinedresser who was also a specialist in planting melons, pumpkins, onions and garlic,—*Euempolus*, another name to add to the list of vinedressers. In P.S.I. 433, *Heraikleides* gives to *Euempolus* land for planting garlic; in P.S.I. 434 he sends a man to accompany him on his inspection of melon, pumpkin and onion plantations in different vineyards. In this inspection he has to deal with the stubborn and, as he says, crazy *Apollonides*, whom we have already met, and he mentions the names of two more vinedressers, *Python* and *Neoptolemus*; the latter is mentioned with Alkimus in the agenda of Zenon in connection with vineyards (P.S.I. 429, 22; I do not know that Edgar is right in identifying him with *Neoptolemus* the Macedonian, author of the petition P.Z. 38, of which I shall speak later).

These statistics show the importance of vine growing in the husbandry of the estate. At least thirteen large vineyards existed there and our list of course is far from complete. Of the conditions under which the vinedressers named above were employed we are not fully informed. That they received salaries, were given manual laborers as help, and were furnished with implements, are facts that do not prove that they had no share in the profits. We have seen that the same conditions apply to the individual farmers of the arable land. I am rather inclined to think that the vinedressers also were at once hired specialists and farmers of the produce. An interesting hint at this is found in P.S.I. 434. Euempolus describes his inspection of the melon, pumpkin and onion plantations in the vineyards; the farmers of these plantations are obliged to pay half of the produce ἐξ συντιμήσεως, i. e., according to a special agreement on the valuation of this produce; the payments are made in money. Having finished with this topic Euempolus begins to speak of other matters, about the farming of the produce of the vineyards themselves. The operation of farming this produce was fulfilled by Euempolus in the regular form, in the presence of an official, Anosis, the village-scribe of Philadelphia (s. Addenda p. 174), and in the form of a public auction, ὑπὸ κήρυκα. Thus the same methods were used as on the arable land. A trick in this respect was played by Apollonides, one of the vinedressers, who farmed his vineyard to someone without any such formalities and received much more money. This story of Euempolus shows that the vinedressers had certainly not only their salaries but also a share in the produce both of the vineyard and of the vegetable gardens planted in the vineyards; they were therefore at one and the same time managers and farmers, like the γεωργοὶ of whom I spoke in the preceding chapter.

It is possible that some of them were at the same time cleruchi. If the identification of Neoptolemus, the vinedresser, with Neoptolemus the Macedonian, one of the cleruchi of Philadelphia (P.Z. 38), proposed by Edgar be correct, the fact would be established beyond doubt. A corroboration of Edgar's point of view may be found in P.S.I. 588, where we find Herakleides writing to Zenon about some houses (σταθμοί),

mentioning Onnophris and Timocles whom we know as vine-dressers, and mentioning also (l. 7), ἐπιγόνων μεθ' ὅπλων ἐξέβα[λεν], i. e., one of the ἐπίγονοι (military term) as having been ejected from his house with his weapons. This fragmentary letter seems to point to the fact that Herakleides was himself a soldier (P.S.I. 348, where again two vinedressers, Kleon and Herakleides, are mentioned together).

A vivid picture of the life in Apollonius' vineyards is given by the same Euempolus in his long letter P.S.I. 434 (cf. 345, quoted above, p. 98). Euempolus is not a very good stylist but he has the gift of sharp characterization, as is shown when he refers to the violent and half crazy Apollonides as one who is nevertheless a good business man; he speaks a pointed vulgar Greek and has a good sense of humour. In l. 15 ff. he says: "Nobody prepares the wine vats, neither do they build new ones, and time presses. Last year we began to gather the grapes on Pachons the 28th (the letter is written on Pachons the 2nd). But they don't prepare themselves even to catch a mouse (a proverb, no doubt)! Thus if you do not come yourself very soon and give orders about everything, stimulating the rest of them, you will lose much."

What were the relations of Apollonius as a large vine grower to the State?<sup>77</sup> From the R. L. we know that the vineyards of the *δωρεαί* paid one-sixth or one-tenth of the produce, the *apomoira*, to the goddess Philadelphus, the deified sister-wife of Ptolemaeus Philadelphus. But the vineyards in general paid more than the *apomoira*. Besides a series of minor taxes,—*χωματικόν*, *φυλακτικόν* and others, they were subject to a heavy tax of one-third or one-half of the produce, not including the *apomoira*. This we know from P. Petrie III, 117 (b) and 122 (d). The tax was called *τρίτη ἀμπελώνων* or *ἀπὸ τιμῆς τοῦ οἴνου*. In P. Eleph. 14, 2, this tax is included in the general name *οἱ καθήκοντες ἀργυρικοὶ φόροι*, and in P.S.I. 632 and P. Z. 38, it is called *ἐπιγραφή*. It is probable that the vineyards paid in addition a special land tax, *ἐπαρούριον*, (see P. Hib. 112, p. 302); this tax seems to be of the same kind as the tax for the dykes (*χωματικόν*) and means perhaps a payment for using the irriga-

<sup>77</sup> The last treatment of the problem is that of Edgar, P. Z. 38, Introduction.



tion system; it is probably included in the ἀργυρικοί φόροι of P. Eleph. 14.

Three documents of Zenon's correspondence give a splendid, full picture of how the main tax, the one-third, was levied. One is P.S.I. 508. The vineyards rented or farmed (see further below) by Damis paid one-third or one-half of their produce in money. This variation in the amount of the tax is explained by P. Z. 38. Neoptolemus, the vinedresser and cleruch of Philadelphia, protests in a letter written to the subdioeketes Diotimus against the treatment of his father, Stratippus, owner of vineyards in the Aphroditopolite nome, by Theokles, the former oecosome of this nome and by Petosiris, the royal secretary. These men assessed the vineyard of Stratippus for one-half of the produce, taking the average of the produce for the last two years, instead of assessing it for one-third, taking the average for the last three years. They say that the vineyard is newly planted, which is not true, as the vineyard has been bearing for four years. Thus the newly planted vineyards paid a heavier tax than the old ones, probably because of the smaller quantity of grapes which they yielded. At the end of his petition Neoptolemus asked Diotimus to reckon in with the payments of his father for the vineyard, the sums which were paid by the wineshop keepers to the treasury as the price of his father's wine.

The same Stratippus writes a similar petition to the king (P.S.I. 632, cf. p. XVIII) concerning his vineyards in the Aphroditopolite. He is himself a Macedonian, one of the ἱππεῖς of the corps of Antigonos, cleruch in the Herakleopolite. The petition is fragmentary and not dated. After having mentioned the apomoirā (ἐκτὴ and δεκάτῃ), he complains, as far as I can understand this fragmentary portion of the papyrus, that being obliged to pay his ἐπιγραφὴ at the rate of 3 dr. and some oboli for the metretes, he happens now to pay much more, as the oecomeses sell the wine for much less than for 3 dr.<sup>78</sup> His whole business is therefore in danger of being ruined, and he

<sup>78</sup> I read l. 6: ἐπιγραφῆς ἀποτίνειν με τὸ [του τοῦ ἀμπε]λῶνος ἐκ τριῶν δραχμῶν καὶ [ . . . ἑκάστον] τὸν μετρητὴν εἰς τὸ βασιλικόν. [συμβαίνει οἷον μοι ὑπὸ τῶν οἰκονόμων περι/—π]ερὶ τῆς τιμῆς αὐτοὺς πωλεῖν [τῶν γ' δραχμῶν] . . . πολλὸν ἐλάττωτος. . . .



asks the king to send to Apollonius the dioeketes and Nicanor the sub-dioeketes his petition to have his payments made in monthly installments. Here again the *ἐπιγραφή* is paid in wine (*ἐξ ὕγρου* is the technical expression, P. Tebt 703), and the wine is sold to the wine sellers by the oeconomes at a price which is fluctuating.

We may assume therefore, that first an agreement about the amount in kind and the money value of the tax to be paid by the owner of the vineyard was concluded between the farmer of the tax and the owner of the vineyard, in the presence of the officials. This agreement was of the same kind as those usual in the oil monopoly, the collective contracts with the peasants about cereals and the rest. This agreement, taking as the point of departure the average paid for the last two or three years, stated the sum to be paid in the current year in money. After the vintage this tax was either paid in money, or if not, a certain amount of wine was delivered by the tax-payer to the local wine sellers, to whom all the wine of the locality had been already sold by the oecomete and the farmer of the wine tax. The value of the wine delivered by the tax-payer was entered under the name of the tax-payer, and was paid to the treasury by the wine seller; the treasury credited the money against the payments due from the tax-payers; these are the payments *τιμῆς οἴνου* or *ἀπὸ τιμῆς οἴνου* of the Petrie Papyri. When the tax-payer's debt was covered, the rest of his produce, hitherto under arrest, was released (*ἀφιέναι*), and the owner of the vineyard was free to sell his wine to anyone. The choice of course was limited as the wine was sold in retail only by special shopkeepers who held licenses from the state.

This practice appears again in P.S.I. 383, year 38. Theron, a farmer of a vineyard, has paid his tax for the year 38. His payment was accepted by the treasury, to which it came with a special document (*διαγραφή*) signed by the tax farmers, who received this document from the retailer who had bought the wine (*ὁ τὸν οἶνον ἐωρημένος κάπηλος*). The *diagraphē* stated how much was due, how much was received in kind and how much it was worth in money. The trouble in this case was that the payment was entered by a mistake of the agents of the tax farmer, not for the year 38, but for the year 37, and for this year Theron had paid in full.

The information presented by the documents of Zenon's archives on the subject of the taxation of the vineyards is therefore very extensive. But no one of these documents mentions vineyards which belonged to Apollonius or to Zenon, and some of the documents refer to vineyards which were not even situated in the Arsinoite nome. How did all these documents happen to be in the archives of Zenon? The answer to this question is found in other documents of the same archives. In his agenda (P.S.I. 430) Zenon writes "to verify the accounts of wine shipped to the landing place, for which nome the wine is destined." In P.S.I. 425, of which I spoke when dealing with the grain, the second part of the document is devoted to pointing out mistakes committed by Zenon in his bookkeeping: (1) in the formulæ of the agreements and contracts (*συγγραφαὶ* and *σίμβολα*); (2) it is necessary to have rewritten the letters given by the warrantors of the retail traders in wine of the Memphite and the Aphroditopolite; (3) the writer of the letter asks for the list of the distribution of wine meaning probably the wine sold to the retail traders, a list compiled by Aristandrus and Hermolaus, the oeconomes; the list is needed to show which of the traders did not receive wine. The author of the letter is probably the sub-dioeketes who had much to do with the taxation of the vineyards.

Finally in P.S.I. 439, year 4 of Euergetes, Demetrius writes a letter to Zenon informing him that he has sent to him Glaukias who is bringing the accounts of the produce of the merides of Themistus and Polemon. The accounts for the other *τόποι*, probably the third meris, that of Herakleides where Philadelphia was situated, he had not yet received from his subordinates. Zenon must read the accounts, sign them and send them back to Demetrius. The produce of which Demetrius speaks is not specified, but as near the end of the letter Demetrius speaks of the sale of wine and of vinegar, we may be sure that the *γενήματα* are the produce of the vineyards of the entire Arsinoite nome. I note moreover the fragment P.S.I. 650, which is addressed to Zenon and speaks of retaining some wine and not allowing it to be sold, probably because the man in question has not paid his tax.

If we look attentively at the documents we see that Zenon acts in the Arsinoite, the Memphite and the Aphroditopolite: (1) as the man who makes contracts with the retail traders in wine; (2) who distributes the wine among them; (3) who ships the wine to different nomes. Moreover his agents register the produce of the whole of the Arsinoite, and Zenon keeps in his archives documents which are connected with certain irregularities in the levying of the wine taxes, the apomoirā and the epigraphē. The duties mentioned above correspond in almost all details with what we know about the duties of the farmers of the oil monopoly as depicted in the R. L. I have no doubt therefore that Zenon was the general farmer of the taxes on wine land for three nomes at least, the Arsinoite, the Aphroditopolite and the Memphite. One of his sub-contractors was probably Damis (P.S.I. 508); Zenon is asked in this document to give his guarantee for Damis and to give the order to release the wine owned by Damis.

Thus Zenon acts as a large tax farmer. Was it on his own account, or behind him do we see Apollonius as the real farmer but unable to act as such since the law forbade officials to take part in the farming of taxes (R. L., col. 15, l. 1 foll.)? I cannot say, but surely it is difficult to assume that Apollonius allowed his general manager to be involved in such big operations without having his own share in these operations. As a large vine grower he was interested in exercising control over wine prices in the wine producing parts of Egypt. One of his letters to Zenon seems to indicate that he owns large quantities of wine even outside the three nomes farmed by Zenon, namely in the Heliopolite (P. Z. 29, year 30). He asks Zenon to sell this wine as advantageously as possible. Of course he may have had vineyards in the Heliopolite too.

I see no reason to suppose that the vineyards of Apollonius were not subject to the regular taxation. They certainly paid the apomoirā. Why should they not pay the other taxes?

Much scantier is our information about the production of olive oil. This branch of agriculture did not yet prosper in Philadelphia in the time of Zenon. However, he takes care to plant olive trees (P.S.I. 430, 1 ff.; P. Lond. Inv. 2313, recto, l. 7 ff.).

Orchards and market gardens seem to have played an important part in the economy of the estate. In P.S.I. 499, Panakestor is busy securing fig tree saplings, probably of a special sort; in P.S.I. 430 Zenon notes, "to receive saplings of the royal nuttrees,"—again a new culture on a new land. In the early Ptolemaic times, probably, many new kinds of fruit trees were first introduced into Egypt. It would be interesting to collect the information on this topic, on which there is so much in the papyri. To illustrate this point, I see no reason to suppose with Glotz (*Rev. d. études gr.*, XXXIII, 1921, 169 ff.) that in the accounts connected with the feasts of Adonis (P. Petrie III, 142) the *κάρνα Χαλκιδικά* and *Ποντικά*, Chalcidian and Pontic nuts, were imported into Egypt. They may as well have been grown in Egypt itself. It is worth noting how many fruits and vegetables are enumerated in the list of goods shipped from Philadelphia to Alexandria (P.S.I. 428, cf. Wilcken, *Arch.*, VI, 394): apples, royal nuts, pomegranates, olives, onions, garlic.

Flowers seem not to have been produced on the estate. They were bought elsewhere by the agents of Apollonius, at least for some religious ceremonies (P.S.I. 333 and 489, comp. vol. VI, p. XV).

Among the vegetables a special place was occupied by garlic. We have seen that large plantations of garlic existed in the territory of Hephaestias (P. Lond. Inv. 2097, l. 14 ff.). At Philadelphia, too, Zenon tried to introduce the cultivation of two special sorts of garlic; that of Tlos and that growing in the Oasis, or in a special Oasis in Egypt (*Τλωικά* and *᾽Οασιτικά*). In P.S.I. 433, year 36, Euempolus informs Zenon about his planting of garlic, probably on the border land of the estate (*ἐπὶ τῆς πέτρας*). Zenon needs garlic to send to Alexandria (*εἰς τὰς ἀποστολάς*) and prefers especially the two sorts mentioned above (cf. P.S.I. 428, 85). I cannot follow Vitelli in his note to P.S.I. 323 (vol. VI, p. X); he understands *Τλωικά* as *Τρωικά*, an obscure place in the Fayum. Tlos in Lycia was situated in one of the provinces of Egypt; the whole region was famous for its garlic and was perfectly well known to Zenon, the man of Kaunus. He tried therefore to grow this sort in Egypt and the attempt was a success. The *᾽Οασιτικά* seems to be a prod-

uct of Egypt. The document P.S.I. 332, year 29, speaks probably about shipments of this kind of garlic to the Fayum, perhaps for planting purposes (cf. Wilcken, *Arch.*, VI, 387).<sup>79</sup>

Good honey in abundance was produced by the bees of the Fayum. There was a special place there called Ptolemais Μελισσουργῶν, i.e., Ptolemais of the beekeepers (P. Tebt. 609, verso). Honey was shipped by Zenon to Alexandria in great quantities (P.S.I. 428), and Artemidorus asks Zenon to buy honey for him at Philadelphia (P. Z. 42). This honey was certainly produced on the estate. In P.S.I. 426, a man who was probably a beekeeper complained to Zenon that he had received no quarters in Philadelphia and could not get the promised allowance in grain. Moreover, he cannot secure any bees, and it is just the time before the second harvest of honey begins. The man seems to have been invited to Philadelphia as a specialist in beekeeping. Many times we hear of honey being bought in Philadelphia (P.S.I. 512 and 535; cf. 524). A man of the name of Sostratus is in charge of the matter of honey in the first years of Euergetes (P.S.I. 391 and 524) and also earlier in the year 34 of Philadelphus (P. Lond. Inv. 2092, l. 11 ff.). The last document is interesting as regards the management of this industry by the State and the estate. To Demetrius, the writer of the letter, some money was owed by Zenon. Zenon advised Sostratus to pay the debt out of the sale of the honey. But the honey had already been sold by

<sup>79</sup> The attempts of the first Ptolemies at improving vegetable culture in Egypt are well illustrated by the story of the cultivation of cabbage told by Athenaeus, *Deipnosoph.* IX, 9, p. 369 ff. After having mentioned different authorities on vegetables in general, especially Euthydemus of Athens (see Pauly-Wissowa, R. E., VI, 1505) and Theophrastus, who had enumerated the different kinds of cabbage which were grown in the Greek world, Athenaeus quotes *verbatim* Diphilus from Siphnus (the doctor of Lysimachus, Pauly-Wissowa, R. E., V, 1155) who related in his work the attempts of the Ptolemies to improve Egyptian cabbage which was bitter, by importing seed from Rhodes, famous for its cabbage: κράμβη δὲ καλλίστη γίνεταί καὶ γλυκυτάτη ἐν Κύμῃ, ἐν δὲ Ἀλεξανδρείᾳ πικρά. τὸ δ' ἐκ Ῥόδου φερόμενον σπέρμα εἰς Ἀλεξανδρείαν ἐπὶ ἐνιαυτὸν γλυκεῖαν ποιεῖ τὴν κράμβην, μεθ' ὃν χρόνον πάλιν ἐπιχωριάζει. Cabbage (ράφανος which is identical with κράμβη) was produced in great quantities in Apollonius' estate and a special sort of oil was prepared from the seed (?), P.S.I. 537. On the cultivation of pumpkins in Greece, see Athenaeus, *Deipnosoph.* IX, 14, p. 372 b ff.

the agents of Isocrates, the state banker, or treasurer and the agents affirmed that the money received therefrom did not cover their requirements. We may assume from this document that the beekeepers were dependent both on the State and on Zenon. The first claim was the claim of the State. The produce in honey was therefore sold by the officials of the treasury to cover the requirements of the State and the rest of the honey was divided between Zenon and the beekeeper. Zenon appears here again in the rôle of the farmer of the revenue from the beekeepers. We must not forget that the beekeepers belonged to the class of *ὑποτελεῖς* (P. Tebt. 5, l. 168 foll.).<sup>80</sup> The tax paid by the beekeepers was probably calculated in proportion to the yield of honey. In P.S.I. 510, Teos the beekeeper who came to Philadelphia from Busiris, paid 66 dr. and 4 ob. for seven months. For the payment of this tax to the administration of Busiris, Teos being a native of Busiris, Zenon was responsible; this shows him again in the rôle of a tax farmer. Over and again we encounter the same system: the producer, the State taking one part of the produce, the tax farmer and the holder of the *δωρεά*, who are identical, taking another part. The rest was freely sold by the producer.

<sup>80</sup> See Wilcken, *Grundz.*, p. 252.



## IX. THE ESTATE OF APOLLONIUS AT PHILADELPHIA

### STOCK BREEDING, INDUSTRY, COMMERCE, AND TRANSPORTATION

In discussing stock breeding we must distinguish the various branches of this industry which were handled differently. Live stock in Egyptian economy, both public and private, were divided into four large classes: (1) cattle destined for draft purposes,—oxen and cows; (2) animals for transportation purposes,—donkeys, mules, camels and horses; (3) beasts and fowl bred for slaughter and for sacrifices,—calves, lambs, kids, swine and geese; (4) wool-bearing animals,—sheep and goats. Milk cattle as such were not specially bred in Egypt, although cheese was made and eaten in large quantities, especially that made from goat and sheep milk. Let me deal with each class separately.<sup>81</sup>

We do not know the number of draft cattle on the estate of Apollonius, but we must assume that the estate kept scores if not hundreds. We have seen that Zenon had to furnish draft cattle to his farmers as they possessed no cattle whatever. This required large numbers of oxen and cows. In P.S.I. 509, year 30, one of the herds of draft cattle on the estate is mentioned. Panakestor makes a contract with the farmers of the pasture tax (*ἐννόμιον*) of the Arsinoite nome in the presence of Zoilus the oecome, and Diotimus his secretary. Panakestor declares fifty cows and oxen and thirty donkeys as liable to the tax. Another herd (P.S.I. 351, year 32) was sent to the pastures of Hephaestias; but the cattle found no pasture there, only *πυρίνη*, i.e., wheat fields already harvested. In P.S.I. 409, the number of calves which belonged to Apollonius and

<sup>81</sup> No good investigation of the treatment of cattle by the State in Egypt exists. I shall make a few suggestions in my commentary on P. Tebt. 703; see meanwhile my article in the *Journ. of Eg. Arch.*, VI (1920), 173 ff. One of the most important questions is to understand what is meant by the term *βασιλικὸς* in connection with different classes of cattle. As regards the draft cattle (*γεωργικὰ κτήνη*), I am now inclined to think that it was cattle held by the crown peasants but owned by the King.

which were fed in the calf stable (μοσχοτρόφιον) of Philadelphia was eighty-one. Draft cattle were also used for breeding. Cows seem to have been more appreciated than oxen, by the farmers, no doubt because of the milk which they gave in addition to their work (P.S.I. 577).

Of the relations between the estate and the crown peasants in respect to the draft cattle, we are ignorant. Later, in the second century B.C., as is shown by P. Par. 63, l. 173 ff., the cultivation of the royal land by the βασιλικοὶ γεωργοί, the crown peasants, was of paramount importance. If there was need of supplementary cattle besides the royal cattle, i. e., I suppose, the cattle of the crown peasants, this cattle was requisitioned without mercy from everybody, be they native or Greek soldiers, the governors of the nomes themselves or even "somebody else occupying a still more influential position who owned land" (κἂν ἕτερός τις ἐμ βαρυ[τέ]ραι κείμενος ἐ/ξουσίαι [κεκτ]-ημένος ᾗι). It seems natural to suppose that the last class of landowners were the holders of lands ἐν συντάξει, salary land, or ἐν δωρεᾷ, granted land. But the expression κεκτημένος points rather to people who *owned* land, that is, had acquired it in hereditary title in one way or another, a process which was almost unknown in the third century B.C., but had spread widely in the second.

Nevertheless even in the third century the cultivation of large tracts of crown land in the estate of Apollonius by crown peasants may have had the same consequences: obliging the landholder to help the peasants in case of need with his own cattle. His interest in doing so, taking into consideration the relations between the peasants and the landholder, as we know them, is obvious.

Calves bred from the draft cattle belonging to the class of royal cattle which was used probably by the crown peasants in their agricultural work, were kept in special stables (μοσχοτρόφια) supervised by special agents (μοσχοτρόφοι) and were fed at the expense of the villages to which the stables belonged (see P. Tebt. 703, and my forthcoming commentary on it). They were used mostly for sacrifices (ιερεῖα) at the great feasts of the Greco-Egyptian religious calendar of the Ptole-

mies.<sup>82</sup> A calf stable of this kind existed at Philadelphia also (P.S.I. 409, no date; cf. 438, 600, 604). A man specially appointed for the purpose supervised this stable (cf. P.S.I. 375, 4). There were kept in this stable fourteen royal calves and eighty-one calves belonging to Apollonius. Great quantities of Apollonius' calves were used for sacrifices: forty-two for the sacrifices at the famous Pentaeteris of Philadelphus; eighteen must be sent to Canopus and one must be sacrificed at the feast in honour of the divine brother and sister, Ptolemy and Arsinoe (see P.S.I. 431; cf. 429). A special tax, φυλακτικὸν ἱερείων, was paid on the guards watching these animals (P.S.I. 386). The grown calves, no longer fit for sacrifice, seem to have been distributed among the men connected with the estate (P.S.I. 409). It is worth noting that the feeder of the calves of Philadelphia reports on the calves of Apollonius only, leaving aside the crown calves. We may suppose that he reported on these to somebody else, not to Zenon.

We have seen that pigs were also used for sacrifices (P. Lond. Inv. 2097, 3, where the herds of swine pasturing in the territory of Hephaestias are called ὑκὰ ἱερεῖα). The breeders of swine according to P. Tebt. 5, 168 ff., were ὑποτελεῖς, like the beekeepers. This means that they were obliged to have a special license from the state for practicing their profession and that they paid a part of the produce of swine to the state. Large quantities of swine were bred in the estate of Apollonius (P. Lond. Inv. 2097). The manager of this department was *Herakleides*, to be distinguished from Herakleides the vine-dresser. In P.S.I. 384, year 38, he is defined in a letter to Zenon as "the man who deals under you with the ὑκὴ" (i. e., ὠνή, which means farming of the swine trade): τῶν ὑπὸ σε ὑκὴν πραγματευομένων or ὁ ὑπὸ σε ὑκὴν πραγματευόμενος. In P.S.I. 379 and 381, years 37 and 38, he received from the ὑοφορβοί (swine breeders, one of whom lived at Δικαίου Νῆσος) their φόρος, i. e., their rent in kind, a certain quantity of young pigs.

<sup>82</sup> No exhaustive treatment of this important question exists. See, however, Plaumann, P. Grad. 6. The correspondence of Zenon furnishes much new data on this most interesting point; see especially P.S.I. 364, 409, 539, etc.

It seems therefore that the collection of the rent paid by the swine breeders was farmed in Philadelphia to Zenon who had special agents to collect the rent. He himself paid therefore a special sum to the state, standing in the same position as that which he occupied in relation to the beekeepers. He probably also collected the tax paid by swine owners who did not belong to the class of professional swine breeders. Swine, like the other stock, were subject to the pasture tax, the *ἐννόμιον*, paid by the sub-managers of the estate (P. Lond. Inv. 2097).

In the same position certainly were the breeders of geese (*χηνοβοσκοί*). We have no documents in the correspondence of Zenon dealing with these people. But in P.S.I. 534, somebody sends to Zenon twelve geese and asks that baskets and donkeys be sent to him to take away still more geese. I suppose that the writer of this letter is either a *χηνοβοσκός* or an agent of Zenon for collecting the rent from the breeders of geese. It is interesting to note that some of the inhabitants of Philadelphia owned geese (Artemidorus, in P. Z. 42).

Zenon seems to have been a great lover of rare and fine hens. P.S.I. 569 is a letter written by Philinus in which Philinus informs Zenon that he has sent him some special cocks and their "sisters" of different colours (note the same expression as that used for Ptolemy and his wife-sister!). This love of good cocks is again a purely Greek trait (cf. P. Lond. Inv. 2098 about some eggs of Egyptian fox-geese).

We find no special information in the correspondence of Zenon about donkeys. Donkeys were common in Egypt, and were probably kept in large numbers for transporting the agricultural products from the fields to the storehouses and thence to the river. We shall deal with this topic later, but it is an interesting point that Zenon used for this purpose not only donkeys but camels (P.S.I. 562, year 30; cf. 569, 11). This was a novelty, as camels are almost never mentioned in the texts of the Ptolemaic period (Wilcken, *Grundz.*, p. 373).

Great attention was paid by Zenon to horses which were probably kept with the donkeys and managed by the same agents. An instructive document is P. Lond. Inv. 2095. Jason has in his care some *κτήνη*, probably donkeys and horses which were kept on the pastures near *Σύρων κώμη*. The farmer of some

land in this part of the estate, Petobastis (see above p. 87) failed to furnish hay to the animals and grain to the men. The two shepherds, *Asclepiades* and *Apollonides*, threatened Jason with departure if they did not receive their salaries. Jason had the greatest difficulty in getting money. He applied to *Glaukias* but *Glaukias* had none. So he was obliged to pawn some pieces of harness to a money lender. Of the same nature is the letter P.S.I. 405 (cf. 424) where *Hegesilaus*, one of the superintendents of the horses (P.S.I. 371, 18), asks *Zenon* to order *Theopompus* (cf. P.S.I. 405, 17, 21 and 433, 6) to deliver hay for the horses lest they starve. In other documents grooms are mentioned: in P.S.I. 371, 14 and 19 they receive their salaries in kind and also receive some wheat to pay the tax collected for the payment of the veterinary surgeons (*ιατρικόν*); six people are named in P.S.I. 371 as grooms: *Numenius*, *Stephanus*, *Heliodorus*, *Aristomachus*, *Apollonius*, *Horus*; all but one are Greeks. The grain is paid to them, as in P. Lond. Inv. 2095, by a farmer, *Labos*. Of these men *Numenius* appears again in P.S.I. 527, a list showing the distribution of horse harness to different men, one of whom belongs to the M mphite *δωρεά*. The man who distributes them is *Glaukias* (cf. P.S.I. 427, 438, 439). The same topic occupies *Zenon* in his agenda (P.S.I. 430, l. 4 ff.).

Thus we meet again with a large department in the husbandry of the estate, that of draft cattle and especially of horses. At the head of this department are the same men whom we met as superintendents of the affairs of the estate in the neighboring villages, *Jason*, *Glaukias* and a special agent, *Hegesilaus*. Herdsmen or grooms take care of the horses; almost all are Greeks. We know eight of them. Like the farmers, the superintendents of parts of the estate and the vinedressers, they receive salaries in money and in kind, and also hay for their animals. No wonder they are Greeks; the Egyptian fellahin and the Egyptian donkeys and camels of our own time are still not familiar with horses and do not like them.

For what purpose *Apollonius* kept horses we do not know. In some of his travels *Apollonius* drove in horse carriages, but I am sure that his main purpose was to have horses to sell for



the use of the army (see below, App. V) and perhaps of the state mail (Wilcken, *Grundz.*, p. 373).<sup>83</sup>

Horses and donkeys were used also for organizing hunting expeditions into the desert. Hunting was not a mere sport in Egypt, but was regarded by the State as a good source of income. No one who did not receive a special license and did not pay a special rent to the state was free to hunt or to fish in Egypt.<sup>84</sup> In this way the hunting expeditions sent out by Zenon were probably organized. The hunters, headed by a special agent (in P.S.I. 350, *Nicon* is so named) received horses (P.S.I. 527) and salaries (P. Petrie III, p. 199 and 321). Zenon himself was fond of hunting as a sport. On one of his expeditions for hunting wild boars in the *δρυμὸς* of Philadelphia his life was exposed to great danger; he was saved by his Indian dog named Taurus, which was killed by the boar. According to the fashion of the time Zenon ordered an epitaph for this dog to be written in verse. Among his letters two versions of this epitaph are preserved (P. Z. 48). Who knows but that some fortunate excavator will perhaps find at Philadelphia the grave of the brave dog and its epitaph on stone, not on paper!

The Greeks in Egypt kept all their native habits and customs. We have seen how they extended viticulture, introduced the cultivation of olive trees, imported new sorts of fruit and vegetables, acclimatized the animals to which they were accustomed. One of their peculiarities was their predilection for woollen and not linen clothes. We do not know how important sheep and goat breeding was in the Egypt of the Pharaohs, but under the Ptolemies certainly, and in the Fayum especially, sheep and goat breeding assumed very large proportions. The breeding of animals, like the planting of the vine, was one of the most common occupations of the Greeks in their mother country and represented on the other hand a good investment for Greek capital, the animals being the private property of

<sup>83</sup> The relations between the *ἵπποτρόφια* of Apollonius and those of the King are not clear. Apollonius was probably regarded in this respect also as a general farmer of the rent paid by the *ἵπποκόμοι* to the State. But this is a mere hypothesis.

<sup>84</sup> P. Meyer, *Klio*, XV (1918), 376 ff.; P. Ryl. II, 98 a; Preisigke, *Sammelbuch*, No. 285 ff.



their owners, as far as the Greek population of Egypt was concerned.

On the estate of Apollonius sheep and goat breeding was a matter of great importance. Four paragraphs in the agenda of Zenon are devoted to this topic. Here again we have no statistics. Large herds of sheep and goats are mentioned in the correspondence of Zenon repeatedly, all of them living on pasture lands of the different villages situated in the territory of the estate, and of some villages of the Memphite nome (P.S.I. 368, 377 b and a, 346, 381; P. Lond. Inv. 2084). The managers of this department of husbandry on the estate were *Jason* and *Herodotus* (esp. P.S.I. 368; 360, 4; 372, 14 and 429, 13). Under them worked regular herdsmen. The report of one of them is the most instructive document of this series (P.S.I. 368). The herdsman, whose name is lost, writes about his income and expenses. His income is derived from payments of other people's cattle pasturing on the pastures farmed by him, from the sale of young animals and from wool. His expenses are the salaries of the herdsmen, the purchase of hay and of food for the dogs.

The relations of Apollonius and Zenon to the State as regards the pasturing of the herds were not different from those of other inhabitants of Egypt. Zenon is not the master of the pasture lands in the limits of the estate. He pays the pasture tax for his herds just as others do (P. Lond. Inv. 2092); or, he or his agents rent the pastures from the state; as a farmer of these *νομαὶ* he exacts the tax from others (P.S.I. 368) for whom he is responsible to the State. Zenon's agents for this purpose were probably *Kallippus* and *Amortaeus* of P.S.I. 361, year 35, to whom the nomarch Maimachus rented some *νομαὶ* near the shrine of Isis. The conditions are the same in the Memphite *δωρεά*. At a place Taskry, probably in the Memphite nome (P.S.I. 380), the local crown peasants protest against Apollonius' herds of goats grazing on the fields after harvest; the peasants claim these pastures for their draft cattle. No doubt these *νομαὶ* were rented to the agents of Zenon for his herds of goats. Finally in the year 35 (P.S.I. 362) the other nomarch, *Damis*, informed Zenon that he had given some pasture land to the Arabs. These Arabs we have met already.

They lived on the estate as a tribe and asked through their tenmen (*δεκατάρχαι*) to be given as a chief, epistates, either Sostratus, the brother of the nomarchi Damis and Etearchus, or Maron, the well known sub-manager of the estate under Panakestor. Of these tenmen one has a Greek, another an Egyptian name, but all of them were certainly Arabs (see Ad-denda p. 179). It seems that these Arabs were either prisoners of war (*αἰχμάλωτοι*) or emigrants from the borderland between Palestine and Arabia. They seem to have been shepherds who went to Egypt with their herds of sheep and goats (P.S.I. 388, 56). This interesting fact may be explained as one of the attempts at the acclimatization in Egypt of a new breed of sheep, the Arabian breed (*Ἀράβια*, see P.S.I. 429, 17; 377, 14, cf. P. Hib. 36, 6. 11). It is not surprising that with the sheep, the Ptolemies took the shepherds who knew how to care for them. The interest of Philadelphus in the fine sheep of Arabia is shown by the fact that in his well known procession there were three hundred Arabian sheep, thirty Ethiopian and twenty Euboean sheep, and other rare animals (Callix. in Athen. 5, p. 201 B). The borderland of the desert in the Fayum was exactly suited to the animals of the Arabian desert. Another new breed of sheep imported into Egypt by the Ptolemies was the Milesian breed (Edgar, P. Z. 24, Intr.). This again is not surprising as the marshy land on the banks of the lake was just the type of land to which they were accustomed in the marshy plain of the Macander. Another example of the effort of Philadelphus to acclimatize new animals is the letter of Tubias (P. Z. 13), the sheikh of the Arabs in Palestine, informing the king that he is sending him some horses, donkeys and animals cross-bred by a donkey and a wild ass.<sup>85</sup>

<sup>85</sup> The attempt to improve the native breeds of animals by importing better breeds from outside was common in the Hellenistic period. In his *Memoirs*, King Ptolemy Euergetes II (see Athenaeus IX, 17, p. 375 d; Fr. hist. gr., III, p. 188, fr. 9) tells of a special breed of white pigs which he has seen at Assus in Asia Minor; and he says that King Eumenes of Pergamon was eager to buy good specimens of this breed for large sums of money,—certainly with the aim of improving swine breeding in the Kingdom of Pergamon. A good parallel to the letter which I have mentioned which speaks of remarkable cocks and hens, is furnished by another passage of the same *Memoirs* dealing with pheasants, of which a great quantity

No doubt the chief aim in introducing new breeds of sheep into Egypt was to get a finer quality of wool, the native Egyptian wool being one of the worst. Of course the herds provided the estate with cheese too (P.S.I. 606; 618, 1, and esp. P. Lond. Inv. 2095, l. 15, where the price of one talent of cheese is between 10 and 6 dr.); cheese was sold in the villages by special merchants who had farmed this trade from the state (P. Petrie III, 58 (a)) along with the trade in salt meat. But the chief product was wool (P.S.I. 368, 399, 429). Raw wool seems to have been sold and bought in Egypt without restriction, except for the special tax for selling it on the market, and of course for the taxes paid on the sheep and goats. No restrictions were imposed on making woollen stuff and woollen clothes in one's own house (P.S.I. 364; P. Z. 29, etc.), but the manufacture of woollen stuffs for sale was regulated by the State in the same way as the manufacture of linen stuff and clotehs.<sup>86</sup>

Before the publication of Zenon's correspondence we could only guess at this, as the part of the R. L. dealing with this topic was practically entirely gone and other documents were scanty. Here again the Zenon papyri throw new light on the whole problem.

A large factory of woollen stuffs was owned by Apollonius at Memphis. It was run probably on the Greek model by using either the labour of slave girls or of hired girls (*παιδίσκαι*), the

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lived in the palace of the King at Alexandria. Fr. hist. gr., III, 188, fr. 10, cf. fr. 3; Athenaeus XIV, p. 654c. I do not discuss the problem of the relations between the State and the sheep breeders, a long and difficult question. The *φόρος* paid for the sheep (*προβάτων*) and goats (*αἰγῶν*) was, in my mind, not different from the *φόρος* paid for the pigs and geese. This in no way implies ownership by the State, but only a share in the produce received by the herdsmen from their sheep and goats. See P. Ryl. II, 73 and p. 314 ff. We must not confound this rent with the payment for the use of the pastures. Whether Zenon paid the rent (*φόρος*) for the sheep which belonged to the estate or not, we do not know as yet, but I have no reason to suppose that he did not.

<sup>86</sup> See the excellent book of the late M. Chwostoff, *Studies on the Organization of Industry and Commerce in Greco-Roman Egypt*, vol. I, *The Textile Industry* (Kazan, 1914), p. 73 ff. (in Russian); Th. Reil, *Beiträge zur Kenntnis des Gewerbes im Hellenistischen Aegypten* (Leipzig, 1913), p. 5 ff. and p. 93 ff.

first interpretation being preferable. In P.S.I. 485, year 28,—some scraps of an interesting letter, Addaeus, the Memphite manager, writes about these *παιδίσκαι* whom he calls *κασσηγήτριαι*,<sup>87</sup> cloakmakers, (Vitelli reads *κασια.ηιτριων*) and about certain *χιταναλλα* or *κιθαναλλα* (to be compared with *γνάφαλλα*, wool). In P. Z. 24, year 30, Apollonius writes to Zenon: "You did well in giving Milesian wool to the *παιδίσκαι* at Memphis; give another order to deliver them as much of it as they need" (cf. P.S.I. 605). And in P. Z. 25 we meet one of these *παιδίσκαι* named Sphragis, a slave name (cf. the name of the girl slave bought by Zenon in Palestine, P. Z. 3), who was robbed of some wool on her way from Sophthis to Memphis or Philadelphia. I can explain these documents only by assuming that Apollonius ran a wool factory at Memphis on Greek lines by means of girl slaves, bought probably in Syria and Asia Minor.

Another system, the Egyptian, was adopted by Zenon in Philadelphia. In P.S.I. 341, year 30, a Greek family of specialists, weavers of women's woollen clothes, offered their services to Zenon and were ready to emigrate from their place Moithymis in the Memphite nome, to the splendid town of Philadelphia of which the chief, they say, is such a nice man. They proposed no conditions, probably because the conditions were well known. They asked only for quarters (*κατάλυμα*). Carpets in large numbers were also produced in Philadelphia (P.S.I. 442). This time the weavers are natives. One of them, *Pais*, seems to be the chief. The system under which they work is just the same as that known for the linen industry: work on order for the state and remuneration in money per piece. In P. Z. 29, year 30, Apollonius gives an order to Zenon to pay for the carpets out of the money received from the sale of a certain amount of wine from the Heliopolite nome.

Contemporaneously with the introduction and development of the woollen industry, Zenon tried to attract linen weavers to Philadelphia. P.S.I. 599 presents many similarities with P.S.I. 341. Some *ύφάνται*, linen weavers, inform Zenon that they are ready to settle down at Philadelphia and to work there. Their conditions are: for combing and washing one talent of

<sup>87</sup> A composite of *κασός* (or *κασός*),—a cloak, and *ήπήτρια*,—a woman tailor; cf. *κασοποιός*,—cloakmaker.

flax, 1 dr. and for weaving one othonion, 3 dr.; or,  $1\frac{1}{2}$  ob. to a man and  $\frac{1}{2}$  ob. to a woman daily, with the obligation to furnish them one servant as help. Such a servant, probably a slave, was Choirine, the loom manager (*ιστουργός*) who received her pay in grain (P.S.I. 371).<sup>88</sup>

In all these documents Zenon, and behind him Apollonius, appear in the same rôle as in the management of the beekeeping and swine breeding. Here as there, they have to do with the class of *ὑποτελεῖς*, people working in their specialty for the State, with the obligation to share the produce of their work with the State, and here as there, they act as the farmers or contractors, that is, as intermediaries between the State and the workmen, responsible for the workmen to the State. I think that *mutatis mutandis* the same conditions prevailed in the Memphite factory also. Certainly the products of this factory and of the small house-factories of Philadelphia were delivered by Zenon to the officials of the state in the same way as was done by the farmers of the *δωρεά*.

The large village of Philadelphia with its mixed population of different employees on the estate, crown peasants, workmen of different kinds, many attracted by the great building activity which was going on in Philadelphia, new settlers of Greek origin, especially military settlers, had its own complicated needs which were partly covered by the production of the estate itself. Moreover, Philadelphia certainly was an administrative and economic centre for a large district of many villages. No wonder that city life from the economic point of view developed rapidly at Philadelphia; and first of all comes retail trade in the different commodities of daily life: oil and salt, bread, meat and fish, wine and beer, clothes and shoes, et cetera.

I cannot deal here with the organization of retail trade in Ptolemaic Egypt in general. As a rule no free trade existed

<sup>88</sup> In P.S.I. 404, *στίππνον* (i. e., *στυπνέιον*) is mentioned. It is sold for 9 dr. a talent, but it must first be combed. It lies somewhere in the section of the estate managed by Pataikion and there is nobody to guard it. P.S.I. 573 deals with *στιππεουργοί*, who were working or intended to work on the estate. I do not know whether flax or hemp is meant; in the Byzantine epoch *στιππουργός* means the same as *λινουργός*. See M. Chwostoff, *op. cit.*, p. 122, note 2. But I am confident that in the Zenon papyri *στίππιον* means hemp or coarse flax for preparing ropes used especially on ships.



in the cities and villages of Egypt except perhaps at Alexandria.<sup>89</sup> The State regarded all retail traders as its agents, who helped the State to sell its goods to the population. Thus most of the shops were run by people who received special licenses from the State and were obliged to give up to the State a large part of their profits, the State taking an active part in determining the retail prices of the goods. Take for example the trade in oil and wine as depicted above. The shopkeepers were not solely agents of the State but they were in constant and close relations with it (see the mention of *ἐλαιοκάπηλοι* in Philadelphia in the unpublished letter of the Zenon correspondence in Manchester, P. Ryl. 8). It was the same for the linen and woollen industry, for most of the more important and even for the minor trades. On these general principles, also, the retail trade in Philadelphia was organized.

Our information on this topic is of course fragmentary but sufficient to give a general idea of this side of life in Philadelphia. The most copious evidence which we possess refers to the manufacture and trade in beer. We have known but little of the organization of this trade in the Ptolemaic period. The documents of Philadelphia are the first to give us a comparatively good idea of it.<sup>90</sup>

In the year 31 (P. Z. 32) Apollonius writes to Zenon as follows: "you must know that X (the name is not preserved) has rented the beer shop at Philadephia and has assumed the obligation to pay to the treasury according to the daily output of beer made from 12 artabae of barley. Make a contract with him and after having taken from him his sworn declaration let him have the beer shop. Appoint also a trustworthy collector who will control the business. The present brewer shall fulfill his obligations for the time he managed the business."

Of the same beer shop Apollonius speaks in his letter P. Z. 33, a little later in the same year. The brewer *Amenneas* was

<sup>89</sup> See my article in the *Journ. of Eg. Arch.*, VI (1920) 177.

<sup>90</sup> For the most recent treatment see Edgar, P. Z. 32, Intro. He is wrong in identifying *φόρος* and *σύνταξις*, which are quite different; *σύνταξις* means the supply of raw material, *φόρος* the payments by the brewer in money out of the price received for the sale of the beer to the customers.



accused by his treasurer or controller of having said something which amounted to a crime. Apollonius sends a special judge to hear the case and threatens that if Amenneas is convicted he should be led through the streets and afterwards hanged. The matter seems to be of a political rather than of an economic nature.

We knew before the discovery of the papyri mentioned above that the ζυτοποιοὶ and ζυτοπῶλαι, beer brewers and beer shop-keepers, were generally the same, beer brewing being very simple and requiring no special machinery. We knew also that the rights of brewing and selling beer were not free to everybody, but that the brewers received special licenses and paid a special φόρος, or rent. The license of course took the form of a special contract concluded by the brewer with the farmers of the beer industry (ζυτηρά) and the state officials (a special chapter in the R. L. treated this farming: fr. 6 (a) 13, and (h) 3). Now we know much more. We know that the brewers received their raw material, their barley, from the State or from the farmer of the beer industry in the form of a special allowance which they were obliged to transform into beer. To this allowance (σύνταξις) reference is also made in P. Lille 3, col. II, 49-53; here 3000 art. of barley and 900 of sesame were delivered by the state storekeeper or sitologue to the oecosome on the account "of the beerfarm of the nome" (εἰς τὴν ζυτηρά[ν] τοῦ νομοῦ, cf. P. Petrie III, 87). The amount of the allowance received by each brewer determined the amount of his payment, of his rent. The beer which he brewed was sold in his shop exclusively, money for it being received not by him but by special treasurers and controllers who were of course either his accomplices or his bitter foes. The money was paid to the treasury and credited to the account of the farm. Here, after the cost of the raw material was deducted and a general account taken by the officials from the farmers of the beer industry (P. Par. 62, col. V, 1, in R. L. App. I), the brewers received what remained as their net income.

This organization is typical of many other branches of the retail trade. The State secured for itself by means of such organization both an assured sale for the barley which it collected from the crown peasants and farmers, and a share in the profits of the brewer.

We do not know precisely what part was played in these transactions by Apollonius. If he was the person who rented the shops of Philadelphia to the brewers, it may be assumed that in this special case he replaced the *oeconome* whose duty it was to rent such establishments. But I doubt very much that he did so. The shop was probably rented in the usual way, and Apollonius was then informed of the name of the shop-keeper and the conditions on which he received the license. But after the shop was rented, Zenon acting for Apollonius, had to perform all the functions which were usually performed by the farmer of the industry, that is, he had to conclude an agreement with the brewer and to appoint a controller and treasurer.

That the beer business was not an exception is shown by scores of other documents found in different villages of the Fayum dealing with other branches of trade. For Philadelphia this fact is illustrated by a curious and characteristic document, P.S.I. 402, undated. *Arentotes*, the boiler or rather roaster (*φακηψός*) of lentils, writes a letter to Philiscus the *oeconome*. He says that he pays a rent for selling 35 artabae of lentils a month. But (l. 4, ff.), "people in the town roast pumpkin seed (or pumpkins?). Therefore no one now buys any lentils from me. . . . They (the pumpkin roasters) come early in the morning, sit down near me and my lentils, and sell the pumpkin giving me no chance of selling lentils." He asks accordingly to be allowed to postpone the payment of his rent. Here again such a common product as lentils cannot be sold by everybody. There is a special man who has rented this trade from the State, liable to a special rent and to sell not less than 35 art. a month. It may be that his trade was hampered by the fact that pumpkins were not yet appreciated as a source of income for the State, and that the trade in pumpkins remained temporarily free; or it may be that the pumpkin trade was managed by the State in the same way as the lentil trade and that only the taste of the public had changed. In any case the picture given by our letter is a very interesting one. The fact that the letter was sent to Zenon by Philiscus the *oeconome* shows that he was interested in the affair, probably in the same way as in the beer business.

Perhaps still more curious is one papyrus of the small collection of the Zenon papyri now at Manchester in the Ryland Library (no. 8). The writer of this letter, which is addressed to Zenon, is *Bubalus*. We know him from some other letters quoted above in part. He seems to be one of the members of Apollonius' court, one of the former agents of Zenon. In P.S.I. 327, year 27, he is busy in importing goods for Apollonius from Syria; in P.S.I. 354, year 32, he tries to save the hay in the Memphite *δωρεά* from the soldiers who accompany the King on his journey through Egypt; in P. Lond. Inv. 1912, year 38, he is interested in his letter being delivered to Apollonius. In P. Ryl. 8, Phantias,<sup>91</sup> the secretary of the *ἱππεῖς*, demanded that food should be provided for his soldiers who were marching to take part in the feast of the Pentaeteria (see note 82). In l. 10 ff., Bubalus says: "you must know that X (the name is not preserved in full) who happened to be here said that somebody has farmed the meat trade (*μαγειρικῇ*) and would pay a rent to the treasury; he will provide food for the soldiers; in the same way the traders in oil who farmed the retail trade will deliver oil so that there will be plenty of everything." If Bubalus speaks of Philadelphia, as is likely since the letter is addressed to Zenon, we have another instance of an occupation which was farmed by the State, this time that of meat seller.<sup>92</sup>

Another example in another field is given by the documents referring to the public baths in Philadelphia. P. Lond. Inv. 2086 is an interesting complaint of a certain Isidora, a woman who rented from Zenon one of the baths in Philadelphia, not however the largest one mentioned at the end of the letter. This letter may be taken as a proof that at least the baths built, furnished and provided with water by the estate (P.S.I.

<sup>91</sup> This Phantias seems to be identical with the Phantias of P. Hib. 110. He may be also identical with the Phantias of P. Petrie III, 20 and P.S.I. 609, who had to do with the *σίτος ἀγοραστής*,—the grain bought from the cleruchi, mostly for the needs of the army. See Rostowzew, Pauly-Wissowa-Kroll, R. E., VII, 166. One Phantias is mentioned also in P.S.I. 438 and 539, but this one seems to have nothing to do with military affairs. Cf. Lesquier, *Rev. d. études gr.*, XXXII, 364; *Dikaiomata*, p. 99.

<sup>92</sup> See P. Petrie III, 58 (a); Schubart, *Einführung*, p. 429; cf. Edwin Moore Rankin, *The Rôle of the μάγειροι in the Life of the Ancient Greeks* (Chicago, 1907). The *μάγειροι* in Egypt are retail traders in meat.

445 and 542, no date), were private enterprises not subject to the same treatment as was applied to the other branches of trade dealt with above. As a matter of fact, Isidora does not mention any official; she complains that Maron, not an official, charged her with four gold staters without any reason. But another document, P.S.I. 355, year 33, a receipt of the treasury to the bathkeeper Teos for the payment of his rent (*φόρος*), shows that baths were treated like the other businesses, regardless of the fact that they were built not by the State but by private individuals. The bathkeeper had to pay to the State a part of the income of the bath. In the case of Isidora, Maron and Zenon certainly acted both as the representatives of the owner of the bath and as farmers of the bath rent for Philadelphia. What Zenon's relations to the baths at Arsinoe were (P.S.I. 584), and at *Κότται* (P.S.I. 395), we do not know. It may be that these were Zenon's private enterprises.

Before finishing my survey of the economic life of the *δωρεά* of Apollonius let me pause a moment to examine another vital branch of this economic life, transportation. The extent of Apollonius' estate required a large number of draft animals to transport the produce from the fields to Philadelphia and from Philadelphia to the nearest navigable channel. The nearest landing place to Philadelphia was Kerke (*Κερκή*) on the main canal of the Fayum. We have seen that the estate owned many donkeys but they certainly were not sufficient for the requirements of the estate at the busiest season, following the harvest. In P.Z. 36, year 31 (cf. 36<sup>a</sup> in P.Z. V, p. 19), we find how Zenon secured the necessary number of donkeys for this season. The document is a contract concluded on the second of Pharmuthi, that is, at harvest time, with some farmers (*γεωργοί*). It is a loan of money given by Zenon to the farmers to buy donkeys, on the condition that if the money is not returned with the payment of the rent Zenon is entitled to take the best of the donkeys. I agree with Edgar that it was in this way Zenon attempted to secure the transportation of the grain from the fields to Philadelphia and from Philadelphia to Kerke.

At Kerke Apollonius had not only a large fleet of barges and ships but a dockyard for construction of new ones as well. The documents of Zenon's correspondence show that Apollonius

regularly built new ships. The main difficulty in this domain was to secure the necessary quantity of lumber. Trees are scanty in Egypt, and all the imported timber was apparently used in Alexandria as there is no mention of it in the documents concerned with shipbuilding outside of Alexandria. Thus the great preoccupation of a shipbuilder in Egypt was to keep the workmen provided with lumber. Of the Egyptian trees only two kinds are good for the construction of ships, the acacia and the sycamore. They grew sparsely all over the country, mostly in the villages and in the sacred precincts where they may have formed small groves. This explains why the sellers of wood in Egypt were for the most part the priests of different shrines. Besides the scarcity of wood another difficulty was that the trade in wood was controlled by the State from which must be secured special permission even for the sale of a single tree, nay, even for the sale of dry branches.<sup>93</sup> These conditions explain why *Spondates*, who was in charge of the construction of some ships in the year 35 (P. Z. 45), complains that the work is not progressing because he has no sycamore wood. He asks that as soon as possible the tree which was offered to him by the ibis feeders of Mea should be bought. The same situation exists in the year 38 (P.S.I. 382). It is expressly stated here that to purchase a tree special permission from Hermolaus the oecnome is required.

It is a pity that P. Lond. Inv. 2305 is fragmentary and not dated. It deals with the construction of a river or sea ship (κυβαία, cf. P. Z. 2; 12; P.S.I. 594) probably at Kerke. Beside wood large quantities of resin, wax, red chalk or red lead are used. One sees by the quantities of wax used in ship building why beekeeping was so important in Egypt. Compare also P. Z. 8 and 9.

The dockyard at Kerke was operated not only for the private needs of Apollonius. In P.Z. 39, year 33, Zenon was ordered by Apollonius to prepare as soon as possible some furniture for some large ships (ταυροκέκρουροι) which Apollonius in fulfilment of the order of the king, was obliged to have in readiness at Alexandria for the journey of the king's daughter, the royal bride, to

<sup>93</sup> I shall treat this subject in my commentary on P. Tebt. 703; cf. meanwhile my article in the *Journ. of Eg. Arch.*, VI (1920) 175.



Syria. It is worthy of note that Apollonius is probably under this obligation, not as the dioeketes but as one of the ship-owners of Egypt.

The ships and barges of Apollonius were used almost exclusively for the transportation of goods. The managers of the estate, Panakestor and Zenon, have no ship at their disposal for their journeys. Of course Panakestor asks Apollonius for one (P. Z. 19), but Apollonius gives an evasive answer. If Panakestor can rent the ship to some one else for the time he is not using it he may have one. Apollonius is not ready to pay the sailors for the time they are idle (cf. P.S.I. 357, year 33). The position of Zenon in respect to a special ship for his personal use is the same. Demetrius sends him in the year 36 a ship for his personal travel (P.S.I. 374).

Thus the fleet of Apollonius at Kerke is constantly engaged in transporting goods, above all, the products of the estate and goods bought for the estate (see P.S.I. 429 and especially 427 and 428). The shipments from the estate given priority were those which were sent as *ξένια*, gifts in kind to the King. These *ξένια* were in reality regular payments by the estate and the village for the maintenance of the King's court, although according to the personal character of the rule of the Ptolemies they were regarded as personal gifts from Apollonius and the population of Philadelphia, their contributions, for giving a "crown," to the King on memorial occasions, such as the anniversary of the royal birthday, of the coronation day, et cetera. In P.S.I. 537, two ships are found to have been sent to Kerke for transporting some *xenia*; one was left behind and was used for the transport of wheat mixed with rye (?) or of oil made out of radish. Still more interesting is the letter of Apollonius, P.S.I. 514, year 34 (cf. P. Lond. Inv. 2320): "The King has many times given the order about gifts for his 'crown.' Make therefore the utmost effort, transforming night into day, for shipping what is due from Philadelphia according to the schedule, and do it as quickly as possible; the extreme limit is three days from this day for getting the *xenia* to Alexandria in time. The matter is important and requires haste. Moreover send what is due from us for the birthday of the King at the time which I appointed in my last letter."



Here again Apollonius is responsible for the payment by Philadelphia of this extraordinary tax; for that, as a matter of fact, is what the *xenia* were.

Kerke was only one of the stations of the commercial fleet of Apollonius. Some documents (P.S.I. 437 and P. Lond. Inv. 2093) show that Apollonius was the owner of a large commercial river fleet which he used probably not alone for transporting his own goods. It is a pity that we do not know the exact date of P. Lond. Inv. 2093. The date as read by Bell is κδ i.e. year 24; it seems that this papyrus belongs rather to the earlier part of the correspondence of Zenon, to the time when he was the chief manager of the private economy of Apollonius. But some other papyri, e. g., P.S.I. 601, 619 and 437, show that Zenon even after he came to Philadelphia still had to do with the transport business of Apollonius and his stolarches Kriton (mentioned in P.S.I. 601). The whole series proves that the agents of Apollonius transported grain from and to different nomes of Egypt; the Memphite, the Hermopolite, the Kolchonoyphte, the Gynaekopolite, the Prosopite, the Diospolite; and that they acted much like a big transportation company, employing many ship owners (ναύκληροι) and captains (κυβερνήται). I can not treat this important matter in this article as proper treatment would require a special study of river transportation in Ptolemaic Egypt.<sup>94</sup>

<sup>94</sup> One of the most interesting points in P. Lond. Inv. 2093, which requires a special investigation, is the mention of a special payment called διαχειριστικόν, to the *nacleri*, and the mention of special *χειρισται* who worked along with the captains of galleys or barges. It reminds me of the designation of the corporation of *nacleri* and captains and other people occupied in the State transport by the name *χειρισμός*,—"service," which term is used in some documents of the Roman epoch. See P. Giess. 11, l. 11 and part II, p. 160; Wilcken, *Chrest.*, 170, l. 27, note, and 444, l. 11, note. This term implies that the corporations occupied in the transport business were in no way private, free associations employed by the State, but organizations perhaps formed and certainly controlled by the administration. The origins of this system both for the river and the sea transport are surely early Ptolemaic. One of the most important instances for proving this point is P. Lond. Inv. 2093.

## X. CONCLUSIONS

My investigation of the documents of the correspondence of Zenon in the preceding chapters has shown how important is this correspondence for an understanding of life in early Ptolemaic Egypt. The central features of this correspondence are, on the one hand, Apollonius and behind him the King himself; on the other hand, a part of the land of Egypt,—Philadelphia, the creation of Apollonius and Philadelphus, typically representative of the newly created centres of economic and social life.

I have already pointed out many times that the figure of Apollonius dominates the correspondence of Zenon, not so much as one who administered the economic life of Egypt in his quality of dioeketes but more as a typically shrewd business man, a big capitalist who knew how to use his influential position to the advantage of his own private affairs and to increase his own wealth. But he did this not in opposition to the tendencies of Philadelphus: he worked throughout in full sympathy with the system of Philadelphus for the reorganization of the economic life of Egypt.

The ideas which dominated Philadelphus in his reconstruction of Egypt appear, sometimes in full relief, in or behind the activity of his minister Apollonius as reflected in his business letters. The Ptolemies in Egypt inherited from the Pharaohs a highly elaborated administrative and economic organization of a peculiar land with an economic basis quite unique when compared with other parts of the civilized world. The leading idea of the ancient Egyptian state, that of the Fourth, Eleventh and Eighteenth Dynasties, was a strict coordination of the economic efforts of the whole population to secure for each member of the community and for the community as a whole the highest possible degree of prosperity. This coordination was created by the Kings inspired by the Gods, and thus the King and his servants were paramount in Egypt, above criticism and above all control. If the population wanted to be comparatively prosperous they had to obey the divine orders of the King. The King was therefore the quintessence of the State,

the very personification of the State, the emanation of the divine force which ruled the State and the nation. This leading idea was of course obscured in periods of trouble and unrest, in periods of foreign domination, but it never died out.

I have told already how the Ptolemies grasped this idea and made it their own, because it was the easiest way to govern Egypt and because it was in complete accordance with the personal character of the rule of the Ptolemies, who regarded Egypt as their private property, as their large house (*oikos*). Accordingly, the ancient system of a personal and bureaucratic administration of Egypt, with the economic point of view predominant, was restored, systematized and concentrated in the hands of the new ruler and his servants, his bureaucracy. The King, identical with the State, was the centre and the moving force of the life of the State; for him and through him worked the mechanism of the economic life of Egypt. Every forward step in the prosperity of every one of his subjects ought also to increase the prosperity of the State, of the King. Everybody worked not only for himself but preeminently for the State, for the King. For what purposes the income of the King was used, how the money paid by the population was spent, was entirely and exclusively the affair of the King, and nobody in the Kingdom need ask any question regarding this subject. The crown peasants must plow and sow their land, gather the harvest and pay their rent and the taxes; the artisans must attend to their crafts; the merchants must carry on their trade; the herdsmen must pasture their herds, and so on, all under the strict control of the State and under the obligation to give up a large part of the produce of their work to the King. Directly above them stood an army of officials whose duty it was to follow strictly the orders of their own superiors, and in the last instance the orders of the King. These orders were of course vested in the form of written laws, ukases of different kinds, instructions, et cetera, which were known or ought to be known to everybody, to officials and to the common subjects of the King. The aim of these regulations was to create order in the life of the State, and by this means to increase the income of the State, to make the payments of the subjects regular and secure. This economic purpose was paramount, and for it in

the last instance worked the whole administration of the land: the judges, the general administration, the police force and the highly developed financial and economic administration.

Egypt was the King's house, and the life of Egypt was run by the King as by a master who stood beyond any control and above every criticism. The duties of this master were to protect his house from attacks from without and to keep his house in order. The State, the nation, the people, for whom the rulers must work,—all these lofty ideas of the Greek philosophy of the Hellenistic age were of course familiar to the Ptolemies who were educated by Greek philosophers and had them in their service. Sometimes the Ptolemies made use of these ideas in their orders and instructions, covering with them as with a screen the brutal reality, but these ideas did not play any active rôle in their internal policy.

Moreover, as I have already pointed out, the machinery of the State must work smoothly and with regularity. Everything should proceed in order and according to a general plan. For elaborating such a plan and putting it into operation the Ptolemies made full use of the systematic and scientific genius of the Greeks,—their strict logic, their philosophical training. For the first time the administrative system of Egypt was, so to say, codified; it was coordinated and set into motion like a well organized machine, constructed for a special, well defined and well understood purpose. No discretion on the part of the state's agents was tolerated, although the whole system was based on force and compulsion, very often on brute force. The system of compulsory labour was the main feature of the Ptolemaic administration, and no opposition was tolerated. The only protest which was possible was to strike and to put oneself under the protection of the Gods. But we must not forget that for the native population the King was himself a God and perhaps the most powerful of all.<sup>95</sup>

<sup>95</sup> The ideas which I expound at the beginning of this chapter are a repetition, with some modifications brought about by the study of the correspondence of Zenon, of the ideas which I developed in my article, "The foundation of Social and Economic life in Egypt in Hellenistic Times," *Journ. of Eg. Arch.*, VI (1920) 161 ff. I hope to develop them more fully in my projected book, *Studies in the Economic Conditions of the Hellenistic and Roman World*.

After investigating conditions in Philadelphia as reflected in the correspondence of Zenon, we have before us just one piece of the work of the Ptolemaic machinery. Every phase of activity in Philadelphia is regulated by the administrative machine of the Ptolemies: agriculture, cattle breeding, industry and commerce are conducted on lines identical with those on which life in Egypt as a whole was run. Philadelphia was Egypt in miniature, and as our evidence is fuller for Philadelphia than for any other place in Egypt the Philadelphian documents supplement our knowledge of the early Ptolemaic Egypt in many essential points. It makes no difference that Philadelphia was a *δωρεά*, a granted territory, except that some parts of the usual machinery were replaced at Philadelphia by the private agents of Apollonius, who worked on exactly the same lines as those devised for the agents of the State, and were in constant touch with the regular administration of the nome. The estate of Apollonius was a part of an Egyptian nome just as was any other toparchy of the meris of Herakleides in the Arsinoite nome. For the population of Philadelphia Zenon was a State official, not different from the regular officials and tax farmers of a toparchy.

But this fact, that the *δωρεά* did not differ in principle from the rest of the territory of Egypt in respect to the organization of the administrative work and in respect to the treatment of the native and immigrant population, is not the only one which makes the correspondence of Zenon interesting and its study fascinating. There are in this correspondence other points not less important and not less interesting and new. Apollonius himself was a Greek and his entourage, his collaborators, were Greeks also. The court of Apollonius was the court of the King in miniature and Apollonius himself a little King as well. In dealing with the people who form the court of Apollonius we do not feel ourselves in Egypt; we meet Greeks, especially Greeks of Asia Minor everywhere, Greek names, Greek language, Greek habits, Greek costume. To realize that we are not somewhere in Asia Minor we should have to go down to the lowest layers of the court and our correspondence does not lead so far.



These Greeks were of course mostly natives of the Greek provinces of the Ptolemies and *ipso facto* were their subjects. But between them and the Egyptian subjects of the Ptolemies there is an enormous distance; they belong to two entirely different worlds. The Greeks serve Apollonius in the same way and to the same purpose as Apollonius and the other Greeks of the court of the King serve the King. They do it not because they have to, not out of any sense of duty or because of fear, but exclusively by their own free will, because they find this service both attractive and profitable. Such men as Demetrius of Phaleron may have had some ideal interest in helping Ptolemy, by saturating his work of systemizing his *οικονομία βασιλική* with their scientific, philosophical spirit; the scientists, literati and philosophers of the Museum may have regarded Alexandria as another Athens, more quiet and more appropriate for research work undisturbed by politics; even Apollonius may have shared in some of these idealistic motives, although in his correspondence we find not a trace of it. But the members of his court of course worked exclusively for themselves, for creating for themselves secure and profitable positions and a pleasant life. For them Egypt and the court of Apollonius were as good or as bad as any other place in the world. These Greeks, accustomed as they were in Asia Minor to serve foreigners, were real cosmopolites, preserving of course some peculiarly tender feelings for their mother city. And how strange! In Egypt, in one respect, and in this respect only, they soon forget their old habits and customs. I mean their being, according to the definition of Aristotle, as many *ζῶα πολιτικά*. No sign of any political interest, of any part taken in the political affairs of the world, and this at a time when their mother cities still took an active part in that political life, sometimes more active than before! One cannot say that we have their business correspondence only. It is not true. Not all the letters of the archives of Zenon are business letters. Nevertheless there is not one word on politics or on anything except purely material interests. And they are educated people. For a brave dog Zenon procures epitaphs of a professional poet. This means that they all came to Egypt for one and only one purpose,—to enrich



themselves, being as obedient, sometimes as servile as possible; to enrich themselves by any means and to escape any responsibility for the means which they used for this purpose.

This spirit of Apollonius' court was of course the spirit of the Greek part of the Egyptian population as a whole, in the early Ptolemaic times. Gradually a political life will be built up in the half Greek city of Alexandria; the boisterous spirit of a Greek citizen will make its way through the indifference and the materialism of the daily life; but this spirit will show itself in intrigues, in pointed words, sometimes in turbulent riots only, not in pursuance of political ideals. And the same spirit was probably the spirit of the Ptolemaic army. Most of the members of the leading circles of Alexandria belonged in one way or another to the Ptolemaic army. Their spirit was certainly the spirit of the army too. The soldiers are in Egypt, and not in Asia Minor or in Syria, because the pay is better, life is easier and there is less probability of losing their lives in battle. They fight, these mercenaries, but without any enthusiasm, just to show that they are good professionals, and so as not to depreciate the value of their services on the military market.

This Greek element was exactly the element to which the Ptolemies were bound by indissoluble ties of common origin, common ideas, common past and common interests. The Greeks brought the Ptolemies to Egypt, and with the Greeks they stood and fell. The Ptolemies had to reckon with them, with their spirit which originally was probably the spirit of Alexander's generals too. But the spirit of the Kings, Soter and Philadelphus, changed very fast. They soon began to regard themselves not as generals of a conquering army, temporary masters of a conquered land, but as Kings of Egypt, heirs of the Pharaohs. Very soon they became aware that their only base was Egypt and they began to regard their possessions outside Egypt as foreign provinces, in the same way as the Pharaohs of the Eleventh and Eighteenth Dynasties did. The age old spirit of an ancient civilized country, its traditions, took hold of them. Subconsciously and consciously they felt that Egypt, and Egypt alone, guaranteed them their security, the lasting character of their power. The fates of Antigonus, Demetrius, Lysimachus, even of Seleucus and Ptolemaeus the

Thunderbolt are as many examples of the instability of the great powers which were not based on a firm foundation. Philadelphus began to feel this more emphatically after his first reverses, after the loss of Egypt's maritime hegemony. He understood that were it not for Egypt he would lose his power and his life like Antigonos and the others. His main task therefore came to be to work strenuously for consolidating his power in Egypt; and the main question for him was what to do and how to deal with the Greek population of Egypt. Both Soter and Philadelphus understood clearly that it was impossible to base their State on the native population, except as on a toiling mass which worked under compulsion and according to a special schedule. And they were right, as was shown by the attempts made by their successors in this direction. The population of Egypt never forgot that the Greeks and their dynasty were foreigners and intruders. They had no means, except strikes, to combat them, but they would not have tolerated them had they had free hands.

There remained the Greeks, and the main aim of the first Ptolemies was to make the Greeks feel themselves at home in Egypt, to tie them to Egypt with firm bonds. On the other hand, the Ptolemies felt that Greeks concentrated in cities were a constant danger, a constant menace to their power and threatened a complete breakdown of the machinery of their administration. The Ptolemies had first of all to safeguard their own interests,—their interests as the owners of Egypt. There were two sides to this great problem: the need to bind the Alexandrian Greeks to Alexandria, and the Greeks in the country to the country. How this problem was solved is what the correspondence of Zenon partially shows us.

We have seen how Apollonius in Alexandria strove to create the commercial supremacy of Alexandria and of the Alexandrian merchants in the Mediterranean. He is the first of the Alexandrian importers and exporters whom we can observe individually,—one of those merchants who dislodged the Athenians and was successful in competition with the Rhodian and Milesian merchants. We know that these Alexandrian merchants were not satisfied with the Mediterranean only, but followed the tracks of their Egyptian predecessors to the

shores of Arabia, Africa and as far as the harbours of India.<sup>96</sup> It is interesting to see how closely the activity of Apollonius in this field was connected with the activity of the State. The commercial fleet of Apollonius was of course his private capitalistic enterprise, but was it an accident that he was at the same time the dioeketes of Egypt? We do not know what relations existed in this respect between Apollonius and the King. But taking into consideration the fact that aside from his sea-going fleet, Apollonius possessed also a river fleet on the Nile and on the canals, and that here he was bound by close ties to the economy of the State, transporting for the most part goods which belonged to the State, and working as an agent of the State, we may suppose that the same relations existed between him and the State in respect to his sea fleet. At Kerke he had to prepare some equipment for the ships which he was obliged to furnish to carry the King's daughter across the sea: this means that the King regarded his fleet as one which was always at the royal disposal. I think that the relations which existed between the Roman emperors and the Alexandrian merchant fleet were an inheritance from the Ptolemaic epoch. The powerful corporation of the Alexandrian naucleri of the Imperial epoch, the corporation which transported goods belonging to the State from Alexandria to Italy, was the same body whose fleet was greeted by the inhabitants of Puteoli in the times of Cicero, and this again was the same as the merchant fleet which the first Ptolemies used for the exportation of their goods to foreign lands.<sup>97</sup> I can hardly believe that the early Alexandrian naucleri were entirely free to carry out their business as

<sup>96</sup> On the question of the commerce of the Ptolemies with the East and the South, see the excellent book of M. Chwostoff, *Studies in the History of Exchange at the Time of the Hellenistic Monarchies and of the Roman Empire*, Vol. I, *The History of the Oriental Commerce of Greco-Roman Egypt* (Kazan, 1907), in Russian, and my review of this book in *Arch. f. Papyrusf.*, IV, 298 ff. It is a pity that Chwostoff, a victim of Bolshevism in Russia, could not have published the second volume of his *Studies*, which would have dealt with the Western commerce of Egypt.

<sup>97</sup> On the Alexandrian naucleri see Wilcken, *Grundz.*, p. 379; Rostowzew, Pauly-Wissowa-Kroll, R. E., VII, 169; E. Breccia, *Alexandria ad Aegyptum*, Alexandrie, 1918, p. 30; M. Besnier, *Navicularii*, Daremberg et Saglio, *Dict. des Ant.*, IV, 24; E. Kornemann, P. Giess. 11 and part II, p. 160.

they pleased. They had first to respond to the demands of the State; and in case of emergency the State could no doubt requisition their sea ships as it certainly requisitioned their river barges.

Nevertheless the Ptolemies did not hamper the activity of the Alexandrian and the foreign naucleri to such an extent as to make their business unprofitable. No doubt the Kings had their own merchant ships in Alexandria; but the fact that we hear nothing of these, and that on the contrary the inscriptions occasionally mention the Alexandrian naucleri, those in Delos for example,<sup>98</sup> shows that the foreign trade was carried on not by the State but by private individuals of the type of Apollonius. These men served the State, but they worked for themselves too, and they gradually formed a powerful, rich class which survived the power and the might of the Ptolemies themselves.

It is a pity that the correspondence of Zenon gives us such scanty information on this point. We have seen Apollonius busily exporting and importing goods; we have seen his agents fighting against the custom-duties farmers, and working for their master in Syria, Phoenicia and Palestine; but the main point,—the relationship existing between Apollonius and the King, remains obscure. Let us hope that the still unpublished documents of Zenon's archives will throw more light on this question.

The documents dealing with the gold coinage of Philadelphus lighted up for us one dark corner in the picture of the activities of the foreign merchants in Alexandria. The order promulgated by Ptolemy to transform the gold imported by these merchants into Ptolemaic gold coins, meant that the foreign merchants imported great quantities of it. They probably spent it in buying both from the State and from private individuals, goods produced in Egypt. We may surmise what kinds of goods they bought: grain, linen stuff, papyrus, glass, ivory, perfumes and other products of Egyptian industry.

<sup>98</sup> P. Roussel, *Delos colonie Athénienne* (Paris, 1915), p. 92 ff. The dependence of the Delian on the Alexandrian organization shows that the Alexandrian was organized as a kind of State institution, just as in the Roman period. Cf. above note 94.

Extensive foreign commerce stimulated industrial activity in Alexandria. The ancient, almost perfect industrial technique of Pharaonic Egypt, in the time of the Ptolemies was taken over by Greek artisans; and here, as everywhere else where Greeks came into contact with ancient, high civilizations, they first adopted the native technique, learned every detail hitherto unknown to them, even assimilated some artistic forms and ornamentations, and then transformed the whole in their own spirit, making it accessible and desirable for all who shared the Greek civilization. The markets of the Hellenistic epoch came to be flooded with manufactured articles in this Greco-Egyptian style based on purely Egyptian technique. The Ptolemies of course did all that was possible to increase the industrial activity of Alexandria, but unfortunately we have no evidence in the correspondence of Zenon on the means by which they tried to achieve it. The example of the Memphite factory of Apollonius shows that in Alexandria the factories were probably run on Greek models and that large masses of slaves were employed by the factory owners. But as far as we know Apollonius took no part in the industrial activity of Alexandria, and the point remains therefore as dark as it was before the discovery of Zenon's archives.

The largest part of the new Greek settlers, however, was scattered all over the country. The task of attaching them to the country amounted therefore to the invention of devices for letting the Greek population have their share in the economic exploitation of the land, especially in the exploitation of the natural wealth of the country,—the arable land, the land suitable for vineyards and fruit trees, the pastures, the wealth of fish, game and minerals. The most striking feature of the activity of the Ptolemies was their solution of this problem, and the correspondence of Zenon allows us to look deep into the means by which they achieved the task of making the Greek population serve the interests of the State.

The most numerous part of the Greek element in the country was the Greek or half Greek soldiery of the Ptolemaic army. The army was not permanently occupied in war work. In time of peace it was a crowd of lazy men who might become dangerous to the power of the Ptolemies. To release them after



each war and to assemble them again before another war was of course not only unwise but almost impossible, since the markets for mercenaries were situated in countries hostile to the Ptolemies. It is well known that this dilemma was solved by the Ptolemies and the other Hellenistic rulers by settling the soldiers in the country, giving them parcels of land to work. I cannot speak here of the military side of this phenomenon. I am interested in the social and economic aspect only. Here we meet scores of unsolved problems, the most important of which is whether the soldiers received the land as substitutes for salaries or whether they were intended to become gradually a part of the agricultural population of the country.

This point is hotly debated. Lesquier in his well known book on the military institutions of the Ptolemies and I in my book on the Colonate, have tried to show that in the second century at least, the economic side of the problem was seriously taken up by the Ptolemies; that they used their army to recover for agriculture those fields which in one way or another had become unproductive, but naturally were not unfit for agriculture.<sup>99</sup> Gelzer, in his last treatment of the problem, has made an attempt to show that in the early Ptolemaic time the system of the Ptolemies was different.<sup>100</sup> They gave the soldiers not parcels of unproductive land, but good arable land already worked by the peasants and remaining even after it was given to the soldiers in the peasants' hands, provided the peasants became farmers not only of the State but of the State and of the cleruchi. The clerus was thus a substitute for the salary, a kind of payment of the salary at the expense of the crown peasants. Lesquier combatted this hypothesis and showed that the Papyrus Freiburg 7, on which the theory of Gelzer was based, does not give the evidence necessary for the solution of the problem in the way in which this was done by Gelzer.<sup>101</sup>

<sup>99</sup> Lesquier, *Les institutions militaires de l'Egypte sous les Lagides*, (Paris, 1911), p. 202 ff.; Rostowzew, *Studien*, p. 7 ff.

<sup>100</sup> M. Gelzer, P. Freiburg 7 (*Sitzungsber. der Heidelberger Akad.*, 1914, 2).

<sup>101</sup> Lesquier, "Le papyrus 7 de Fribourg," *Rev. d. études gr.*, XXXII (1921) 359 ff., cf. P. Meyer, *Juristische Papyri*, p. 186 ff.



The correspondence of Zenon shows that the whole problem as formulated by the two scholars quoted above does not exist. They are both right and wrong. We have seen from the examples of Apollonius' ὥρεά and its settlement that the problem which faced Philadelphus in the Arsinoite nome, and *mutatis mutandis* in the other nomes, was as follows. Extensive irrigation work carried out by the engineers of Philadelphus reclaimed scores of thousands of acres of arable land fit for agriculture. As soon as this land was restored to condition allowing agricultural exploitation, it must be worked at once. This could not be done by the cleruchi who had no cattle, no implements, no training, and who might unexpectedly be called for military duty; moreover, the work of assigning them their cleri was a gradual slow process. The occupation of this land at once could only be accomplished by attracting to it a population of crown peasants. Thus the Arsinoite was settled by emigrants from overpopulated nomes of Egypt, especially from the Delta,—the richest agricultural part of Egypt. This emigration may have been sometimes voluntary, sometimes compulsory. I have shown in my second chapter that most of the geographical names and most of the religious cults of the Arsinoite reflect this process of settling the nome by peasants transported from different places in the Delta and in Middle Egypt and given new homes and new fields. The emigration agents, so to say, who had charge of the land and the new settlements, were the nomarchs, responsible for the cultivation of the new lands. As soon as the land became cultivable it was registered as such; a certain assessment of rent to be paid for it was made; and the land was then handed over to the nomarchs who were held responsible for its being cultivated in fact and not in theory only.

Thus land which was cultivable and was not cultivated did not exist in the bureaucratic theory of the Egyptian administration and most of the cultivable land was as a matter of fact cultivated by the peasants. Land not cultivated was either land which was not fit for being sown with cereals, or land on which the irrigation work was not yet completed. Grants made up of such land alone could not of course be given to the soldiers.

Gradually, nevertheless, one parcel after another of the newly reclaimed land was assigned to the cleruchi, but of course land assigned to the cleruchi was taken from the arable land which was already cultivated by the crown peasants. There was no reason whatever for the cleruchi to turn out the peasants and to begin to work for themselves, nor was there any reason for the State to allow it. But I doubt very much whether all the land received by the cleruchi was cultivated by crown peasants. If it were, how can we explain the enormous increase in orchards, olive groves and especially vineyards on the cleri of the military landholders? How can we explain that they had to pay for the supplementary irrigation work done on their plots? These facts can be explained only by the supposition that the clerus of a military settler consisted partly of arable and cultivated land, partly of land which was not good for agriculture but by means of some irrigation work could be transformed into excellent soil for planting vineyards, orchards, some kinds of vegetables. The history of the clerus of Apollonius shows this, with ample evidence. One part of his land was arable when he received his grant; it was plowed and sown by crown peasants under the supervision of the nomarchs; the crown peasants became then farmers of Apollonius. But another part, and a very large one, was not yet cultivated. Supplementary irrigation work on this part was done by Apollonius; a large part of this land was then planted with vineyards and orchards; some plots were given to individual farmers with the obligation of carrying out irrigation work. *Mutatis mutandis*, as our evidence clearly shows, this history was the history of almost every one of the military cleri.

Of course some of the soldiers had neither time nor money nor interest for the improvement of the land which they received. These men of course received the *ἐκφόριον* (rent) from the crown peasants and did not care very much for their land. But such men seem to have been rather exceptions. Most of the soldiers were glad to receive parcels of land. Let us not forget that the majority of them were peasants driven from their own countries by poverty and debt or attracted by the hope of a better life. Let us not forget also that the thriftiest of them saved some money during their military service. No

wonder if their first thought after receiving the land was to invest their money in this land, to build a house, to plant a garden and a vineyard, to raise some cattle. They might afterwards be called up for military service but their wives and children would remain to work the land, and they could always rent their vineyards if necessary.

Certainly the plots of land given to the cleruchi were in the nature of substitutes for salaries. But at the same time they were a kind of school, a kind of test for selecting from the army those who were willing and fit to become good farmers and to create an independent husbandry. Their interest was to manage their land properly, lest they might lose it, as the State insisted upon proper cultivation for regular payment of the taxes. I have said already that the land planted with vineyards, the house and the garden became the private hereditary property of the cleruchi, and could not be taken away even after the death of the cleruchus who first received the plot.

The evolution of the land tenure of the cleruchi is well known, but I would like to emphasize the fact that in the history of the transformation of the cleri into private hereditary property economic considerations played an important part. Good husbandmen, good vinedressers and gardeners ought not to be deprived of their resources in order to give the land to a vagabond soldier. But on the other hand the transformation of many cleri into private property made it impossible to find lands for the new soldiers other than those lands, which for one reason or another in the troubled years of the second century B. C. had become only partially productive or even altogether unproductive. This is the reason why in the second century unproductive land, almost exclusively, was assigned to the military settlers. There was no other land available. But the object of the assignments remained the same: to give a substitute for salary to a soldier and to give him a chance to settle down on the land, to raise a family and to create a new and prosperous home.

The cleruchi and the officials who were treated in respect to land assignments in the same way as the cleruchi, formed a large and comparatively wealthy population in many agricultural districts of Egypt. Along with them there had come to

Egypt many others of lower rank in search of a better life than that which was the lot of the majority of the citizens of the Greek cities of the mainland and of certain colonies. All the herdsmen, vinedressers, weavers, horse-breeders, and so on, whom we met in the correspondence of Zenon and who worked on the estate of Apollonius, were of this class; by no means all of them were then soldiers, or had ever been soldiers. The number of these non-military settlers can scarcely be exaggerated. They poured into the land as long as the conditions were favourable.

Egyptian economic life was opened to them by the Ptolemies through the system of State farming and State concessions. We have seen how logically this system was developed by the Ptolemies.<sup>102</sup> At the time of Philadelphus almost no branch of economic life was closed to these revenue farmers and concessionnaires. Into the domain of agriculture they penetrated as farmers of the rent of the crown peasants, who worked as farmers of great landowners. They found their way into most other branches of the economic life and played a prominent part in all.

The system as such was modified according to the conditions of the different branches of trade. But the main lines remain everywhere the same and were formulated in general laws on revenue farming. The public works were given to those contractors who undertook them on conditions most favourable to the State. The big contractors let parts of this work to sub-contractors, and so on. Almost every branch of productive activity of the population was organized as a state concession, an *ωνή* and was managed by special contractors working hand in glove with the officials. It was their privilege to collect for the State the rent paid by the industrial population, most of whom were concessionnaires of the State also, as far as they received special licenses for working in one trade or another under the obligation of giving a part of the product of their work to the State. This industrial population was called *ὑποτελείς* or *ἐμπελεγμένοι ταῖς προσόδοις*, and generally speaking the revenue

<sup>102</sup> See Rostowzew, *Geschichte der Staatspacht*. I maintain fully the main ideas of this book of mine although many parts of it are already antiquated and should be rewritten in the light of the new evidence.

farmers formed a part of this class. They might be vine-dressers, or beekeepers, or shepherds, or weavers or brewers: each of them had to share his produce with the State. The vinedresser must secure a special license for planting his land with vines, under the obligation of the payment of one-third of the produce to the State and one-sixth to one-tenth to the deified Queen Arsinoë; the beekeeper gave up one part of his honey; the herdsmen gave a number of the young animals and a tax in money for the wool produced by the animals, for their milk, for their work, paying moreover a special tax for using the State pasture land; the weavers worked for the State, giving up the whole of their produce in return for fixed remuneration for their work; the same conditions apply to the workers in the oil factories, et cetera. Some of these concessions required capital, some special skill, some needed mere muscular strength only, but all were regarded as special concessions, and the concessionnaires were obliged to give a part of their money, their skill or their muscular strength to the State for permission to perform their work. The lower class of these concessionnaires, like the workmen in the oil factories, were of course natives, but most of the higher classes, especially in the branches of trade recently introduced into Egypt by the Ptolemies, were Greeks.

But this is not yet the end of the system of State concessions. The produce received by the State must be transformed into money. It was always easier to exact the rent from the concessionnaires in kind than in money, as money was scarce in Egypt. For this purpose there was created the system of general revenue farming which transformed the produce into money and gave the money to the State. But even these big contractors were not rich enough to handle the whole business alone. Thus an ingenious system of special concessions for selling the goods of the State was invented and put into operation. The right to sell a special kind of product, say oil, wine, salt, cheese, bread, meat, salted meat and fish, beer, even boiled lentils and roasted pumpkins, was given to special concessionnaires, who had the exclusive right to sell these products to the population of a certain district. They bought these products partly from the revenue farmers, partly from the population, and sold



them to customers, retaining for themselves only a part of the profit. As these men had the monopoly of selling special products, and nobody was allowed to do it in competition with them, so naturally they were the only buyers of most of the products of agriculture, of cattle breeding, of gardening, et cetera, outside of the great merchants of Alexandria. Complete free trade I affirm, did not exist in any branch of the economic activity of the subjects of the Ptolemies.

There were therefore many opportunities for a shrewd Greek business man to invest a little money and great cleverness, thereby realizing a handsome profit. Of course the activity of the concessionnaires was hampered by the strict control of the State officials. But bureaucracies are all alike: one may find many loopholes through which to creep.

Such was the position of the Greek population in Egypt,—a position consciously created by the Ptolemies. What was the significance in this system of the custom of granting large plots of land with certain rights over the population to great personages like Apollonius? This custom fits perfectly into the whole system. But let me first summarize the results of our investigation as regards the *δωρεαί*. The *δωρεά* was a combination of a grant of an exceptionally large plot of land,—a large *clerus*, and of certain rights over the population and land of one or more villages. The relations of the holder of the *δωρεά* to his *clerus* were not different from those of any one of the soldiers to his *clerus*. He could use it as he pleased, provided the rights of the State on this territory were guaranteed, that is provided the revenues of the State from this territory were paid to the treasury. He was free to plant the land with vineyards and trees, provided he paid the duties to the State. He improved the land by constructing new dykes and canals but nevertheless this land also paid taxes to the State. The surplus, after the duties to the State were paid, was divided between the holder of the land and his farmers, be they crown peasants, individual farmers, or contractors who undertook a special work for remuneration in money or in kind.

More complicated were the relations of the holder of the *δωρεά* to the villages given to him as a "gift" by the King. In respect to these villages and their population the land-



holder represented the State as far as the local administration was concerned. He himself is the local administration, holding in his own hands the duties and rights of the komarch and village secretary, perhaps the toparch and the secretary of the toparchy. Like them, he has only administrative, not judicial rights, and he has of course more obligations than rights. Briefly, he is responsible to the State for the population in respect to their payments, to the preservation of order by them, and in respect to their compulsory labour.

Concerning the payment of different taxes and rents, he seems to hold the post of a general farmer of all the revenues which are due to the State from the different classes of the population. Perhaps he even possessed the rights of a general revenue farmer with certain rights and duties of the *oecome*, if it was he who gave out the different branches of trade in the village to the concessionnaires. He was probably also the owner of most of the public village buildings: markets, baths, beershops, et cetera. His position is comparable to that of Ptolemy, the son of Lysimachus, at Telmessus, and to that of Josephus in Palestine as depicted by Flavius Josephus.

What is the historical origin of the *δωρεαί*? They have nothing to do with the estates of the feudal lords in Egypt in the Eleventh and following Dynasties. I see scarcely any connection between them and the exceptional position occupied by the temples in Egypt of the Pharaohs and of the pre-Greek foreign domination. More similar are the grants given by the Persian Kings to their high officials, like the famous grants to Themistocles in Asia Minor. But we know practically nothing about these grants, although we may suppose that they were also introduced into Egypt by the Persian Kings.

Be that as it may, the *δωρεαί* of Ptolemy Philadelphus form one of the links in his general economic system and are an important element in his treatment of the Greek population. Of course one of the main aims of Philadelphus in granting land to his companions, his generals and ministers, was to remunerate them for their services, to give them a kind of salary. But at the same time, as appears from a close study of the correspondence of Zenon, in giving land to Apollonius and to others like him, Philadelphus intended to make as easy

and as speedy as possible the great work of economic development, of introducing new methods in agriculture and industry, by attracting as many Greeks as possible without creating Greek cities. His companions were at once faithful servants of the King with great power in the country, and shrewd business men who succeeded in making large fortunes. They were precisely the proper persons to direct the reclamation and cultivation of new lands, to create new villages and cities, to introduce new crops and new scientific methods in the technique of agriculture; and last but not least, to help the King not only in placing new tracts of land under cultivation, but also in planting them with the most suitable crops. In giving such men administrative power over the population, the Ptolemies intended to put at their disposal large numbers of men for use in their great operations, and to give them a free hand to attract new settlers. Finally, the rôle which they were called upon to play as supervisors and general farmers of the revenues of the State, was intended to enable them to create in their villages new sources of income; to introduce one after another new branches of industry and trade; in one word, to develop to the utmost the economic life of the village. It is not surprising that after the experience which they had gained in their *δωρεαί*, they tried even against the law, to extend their tax-farming operations by acting as farmers of certain revenues for the whole nome and even for many nomes.

If I look elsewhere for a similar organization of lands granted to influential officials, I see only one. I do not mean the feudal seigneurs of the Middle Ages; their position was entirely different and had quite different historical roots. I have in mind the landholders in Russia, especially in the sixteenth and seventeenth centuries, before the time when they received their lands and men in full title from the hands of the Tzars. Like the owners of the Egyptian *δωρεαί*, they were temporary holders of their lands, as long as they served the State; the land remained the property of the Tzar. Like the Egyptian landholders, they had administrative power over the population and were responsible for the obligations of their people towards the State. And we find the same reason for creating such a special class of landowners: to satisfy both the political and economic interests of the Tzars.

Thus the *δωρεαὶ* were a kind of economic superstructure over certain parts of Egypt, intended mostly to stimulate life in these districts. As such the institution was necessarily temporary, transitional. It is therefore not an accident that our evidence on the *δωρεαὶ* is confined to the short period of the reigns of Philadelphus and Euergetes. After all the available land was put under cultivation, there was no longer need for such big concessionnaires as Apollonius and others like him. The striking economic feature of the period after Euergetes in Egypt, was not an increase in the amount of cultivable and cultivated land but a gradual decrease. Land which was fertile became dry or marshy again, and the efforts of the State were directed towards reclaiming these lands again. Under such conditions men who were willing to do the work wanted more than a precarious title to their land: they asked for the right to dispose of their land as they pleased. This is the reason why in the second century B.C. the institution of the *δωρεαὶ* died out, and instead, large and small private estates were granted to the officials and soldiers, sometimes even against their wills. The only survivals of the *δωρεαὶ* were probably the appanages of the members of the royal family.

What did happen to the *δωρεαὶ* after they were taken away from their holders we do not know. There was probably no general rule. If there was no confiscation, the family of the holder probably retained the vineyards and the gardens, the houses and other buildings in the villages, but the clerus was taken over by the State. In such cases as that of Chrysermus, the heirs might have retained even the whole clerus. But these are mere conjectures.

A temporary revival of the *δωρεαὶ* is to be found in the *δωρεαὶ* of Roman imperial times, grants which some leading persons in Rome received from the heirs of the Ptolemies, the Roman Emperors. But the organization of the *οὐσῖαι* as far as we know was slightly different.<sup>103</sup> The grants have no military character; the *οὐσῖαι* were not cleri. It is a superimposition of large landholders over the real tillers of the soil, and that is all. The *οὐσῖαι* were not so many solid plots of land, but each consisted

<sup>103</sup> On the *οὐσῖαι* see Rostowzew, *Studien*, p. 119 ff. New material for the history of the *οὐσῖαι* is supplied by some Ryland and Hamburg Papyri.

of land scattered all over the nome of the Arsinoite, several parcels in different villages forming one *οἰσία*. It may have been that Augustus and his successors wanted to induce some millionnaires of Rome to invest their capital in improving the agricultural conditions in Egypt, but I doubt very much whether this attempt of the emperors was successful.

## APPENDIX I

### THE OFFICIALS OF THE ARSINOITE NOME MENTIONED IN THE CORRESPONDENCE OF ZENON

Many times in the correspondence of Zenon we have met with names and titles of officials with whom Zenon and Panakestor before him were in constant relations, receiving letters from them and addressing letters to them. What kind of officials they were and what relations existed between them and the administration of the *δωρεὰ* of Apollonius is a matter of importance and interest. The investigation of this question is both difficult and complicated as in the Ptolemaic period in general not much attention was paid to titles; accordingly, the titles of the persons mentioned in the letters of this period, except in contracts and other documents of the same nature, are seldom given in full. The letters, the most instructive and most numerous documents, very rarely mention the title even in abbreviation.

I have spoken already about *Apollonius* the dioeketes. By his side in the correspondence of Zenon often appear his two assistants, the sub-dioeketae (*ὑποδιοικηταί*),—*Nicanor* and *Diotimus*. The question of the existence of such *ὑποδιοικηταί* at all has been hotly debated (see Druffel, *Arch.*, VI, p. 30 ff.). The correspondence of Zenon decides definitely that such officials existed (Vitelli, P.S.I. 415, note 1). The title of *ὑποδιοικητής* is repeatedly given to Nicanor and Diotimus in the archives of Zenon and they are mentioned many times in the documents of Zenon's archives and in other contemporary papyri without titles. Nicanor is mentioned twice in P.S.I. 415 and 632, 11; the title of *ὑποδιοικητής* is given to him in the latter of these two papyri. Diotimus is mentioned many times, once with the title *διοικητής* (P. Z. 38), and once in a fragment quoted by Edgar P. Z. 37, Intro. with that of *ὑποδιοικητής*. The same Diotimus is mentioned in P.S.I. 361; 409 a (?); 425; 566; 587; 591; P. Z. 37; and in other papyri: P. Freiburg 7; P. Petrie II, 4, 2—III, 42 (c), 4; II, 13, 17—III, 42 (d), 3; II, 9, 1—III, 43, 8; II, 13, 1—III, 42 (c), 12; cf. Lesquier, *Rev. d. études*

gr., XXXII, 363 ff. The frequency of references to Diotimus in the Arsinoite documents during a comparatively short period, from the year 30 to the year 35 of Philadelphus, and the paucity of the references to Nicanor, show that the Arsinoite belonged to the part of Egypt which was under the special care of Diotimus. On the other hand the variety of affairs in which Diotimus was involved proves that there was no division of business between him and Apollonius, no special domain in which he alone was competent to act, but a general commission was given to him for a group of nomes. Another peculiarity is the fact that, as an assistant of Apollonius, he was engaged not only in affairs of State but in the private affairs of Apollonius as well; in this respect he was the direct superior of Zenon. We shall come back to this topic in Appendix III. It may be that Diotimus was competent for at least the Arsinoite, Memphite and Aphroditopolite nomes (see especially P. Z. 38 and P.S.I. 566; Edgar, P. Z. 37, Intro.), and that Nicanor was connected with the Herakleopolite (P.S.I. 632).

The next series of officials who were in close touch with Zenon and the estate of Apollonius were the oeconomes. There is no exhaustive treatise on the duties of the oeconomes.<sup>104</sup> We know now that there were several oeconomes in one nome, the chief residing in the capital of the nome. We know also that the division of the oeconomes into two classes, of which one dealt with payments due to the State in money, the other with payments in kind, was introduced in the late Ptolemaic epoch. On the duties of the oeconomes we have plenty of evidence. I cannot treat this matter here and can only refer to my investigations in my forthcoming comments on P. Tebt. 703. Briefly, the oeconome was the local dioeketes of one nome or of one part of the nome. He was the manager of the economic life of the nome so far as the State was interested. Thus everything which was connected with agriculture, cattle breeding, pasture land, industry, trade and transport, so far as these

<sup>104</sup> See A. Steiner, *Der Fiskus der Ptolemäer* (Leipzig, 1914), p. 10 ff., and the list of the oeconomes mentioned in the papyri p. 57 ff. Steiners' treatment of the subject is both misleading and incomplete. He has no understanding whatever of the historical evolution. Cf. E. Preisigke, *Fachwörter, sub verbo*.



branches were under the control of the State, was his main business; and he was especially concerned with the various classes of contractors and concessionnaires who were the main moving force in the economic life of Egypt. His chief duty was to secure these contractors, to sell them the different *ὠναί* or branches of revenues, to supervise them and to make monthly and final accounts with them. Such was also the activity of the *oeconomes* in Philadelphia.

The question as to who were the *oeconomes* during Zenon's stay at Philadelphia is not an easy one to answer. As the *oeconomes* were numerous in the Arsinoite, and as the managers of the estate had to deal both with the central and the local *oeconomes*, it is not easy to decide which of the officials, to whom the title of *οἰκονόμος* was given, were local and which were central financial governors of the nome. Besides, there are some men in the papyri who apparently performed functions identical with those of the *oeconomes* but who are mentioned in the documents without any title.

The earliest *oeconome* mentioned in the correspondence of Panakestor and Zenon is *Zoilus*. He is mentioned many times in the letters of the years 29 and 30 (P.S.I. 498, 502, 509; P. Z. 18, 20; P. Lond. Inv. 2096, 1). He seems to have been the central *oeconome* of the whole nome although this is not quite certain. In the letters he appears now as the official concerned with the compulsory labour, now as the manager of the different *ὠναί*, always taking part in questions dealing with agriculture on the estate. After the year 30 he disappears from the documents of the archives of Zenon. In the many letters of the years 30 and following, we meet with several persons who bear the title of *oeconome*. Some of them are also known from Petrie and other contemporaneous papyri. In the papyri Petrie there is a man, *Dionysius* by name, who is mentioned several times in connection with the activity of Kleon, the chief engineer, as being the *oeconome* (P. Petrie II, 14, 4; 13, 6, etc.). He appears again in one Hibeh Papyrus (P. Hib. 110, l 87) and in one of the Zenon papyri (P. Lond. Inv. 1994, year 38). Two Petrie papyri of the same years (II, 12, 4; cf. 13, 16) name a certain *Philippus ὁ ἐν Πτολεμαίδι οἰκονόμος*, and in the year 33 another Petrie papyrus, III, 42,

F(a), gives the title of oecosome to *Aristophanes*.<sup>105</sup> *Aristophanes* may have been the local oecosome of some part of the nome which was not in touch with the estate of Apollonius, but Dionysius seems occasionally to have had relations with Zenon and Apollonius; the name of Philippus has not yet been mentioned in the published Zenon papyri. We have also many references to a man named *Hermolaus*, who sometimes bears the title of oecosome and fulfills exactly the same functions which are characteristic of the activity of Zoilus and of the oecosomes in general (see P.S.I. 353, 354, 356, 358, 372, 382, 425, 544; P. Z. 38; P. Lond. Inv. 2079; all from the year 32 to the year 38). But at this same time, in the years 33 and 34, we have frequent references to a man named *Philiscus* who fulfills these same functions, although the title *οἰκονόμος* is never given to him (P.S.I. 359, 402, 419, 513, 591; P. Z. 41; P. Petrie II, 13, 13, and P. Hal. 15, 8). In one of these documents he takes part in assigning land to the cleruchi (P.S.I. 513); in another (P. Z. 41) he informs Zenon that by order of the King he must meet a distinguished visitor to the nome,—Ariston, probably the same explorer who was sent out by Philadelphus to investigate conditions in Arabia (Diod. III, 42); and he says that he intends afterwards to come to Arsinoe to take part in a public auction.

One may conclude from these facts that Zoilus, if he was the chief oecosome, was followed by Philippus for a short time, as in P. Petrie II, 13, 16, Philippus seems to be the superior of Dionysius; afterwards came Philiscus. Dionysius was probably a local oecosome and Hermolaus was certainly the oecosome

<sup>105</sup> Cf. also P. Lille 9, time of Philadelphus,—a petition from a retail trader in oil in the village *Κάμινος* to *Asclepiades*, the oecosome. An oecosome *Aristandrus* who is many times mentioned in the correspondence of Zenon (P.S.I. 361, year 35; 383, year 38; P. Lond. Inv. 2097, year 39, cf. P.S.I. 544) was probably the oecosome of the Aphroditopolites. He appears in Zenon's documents exclusively in connection with Zenon's farm of the wine revenues, which was not confined to the Arsinoite nome (P.S.I. 544); the only exception is P. Lond. Inv. 2097, l. 16. But we do not know where the *νομαί* of the *ὕκᾱ ἱερῆα*, of which Jason writes to Zenon, were situated. We must not forget that the territory of Hephaestias bordered on the territory of the Aphroditopolite nome.

not of the Arsinoite, but of the Memphite nome.<sup>106</sup> However, these suggestions are liable to change according to new data which certainly will enlarge our knowledge of the prosopography of the officials of the Arsinoite nome.

None of the officials of the nome had such constantly close relations with Panakestor and Zenon as the nomarchi. We know three who frequently appear in the documents of Zenon's archives and are also known from other papyri. First appear *Damis* and *Etearchus*, two brothers with whom a third brother, *Sostratus*, is associated without being a nomarch himself. From the beginnings of the estate, *Damis* is especially active in the conduct of affairs (P.S.I. 500, year 29; 502, year 29; 508, year 30; 587; P. Z. 35, year 32; P. Lond. Inv. 2090, 3; 2096, 3). In the year 36 he has the title *ὁ παρὰ Θεμιστον* (P.S.I. 366 and 367),<sup>107</sup> but he is still nomarch, as is shown by P.S.I.

<sup>106</sup> We have some documents which point at the connection of *Hermolaus* with the Memphite rather than with the Arsinoite nome. In P.S.I. 425, two nomes, the Memphite and the Aphroditopolite, are mentioned, and two oecomes,—*Hermolaus* and *Aristandrus*; as also in P.S.I. 544; both papyri deal with distribution of wine among the retail traders. Moreover in P.S.I. 354, which deals with a journey of the King, and with some hay to be saved from requisition at *Moithymis* in the Memphite nome, the name of *Hermolaus* is mentioned; in P.S.I. 372, *Hermolaus* appears as taxing a retail oil trader of *Sophthis*,—again in the Memphite nome; in the receipts for sesame, P.S.I. 358 and P. Lond. Inv. 2079, the agent of *Hermolaus* speaks of the agent of *Zenon* as being *ἐκ Φιλαδελφείας*; finally, in P.S.I. 382, *Hermolaus* is connected with *Kerke*, of which the exact situation is unknown but which may have been a landing place not in the Arsinoite but in the Memphite. But in P. Z. 38, *Hermolaus* is acting in an affair connected with the Aphroditopolite. It may be that *Hermolaus* in the year 32-33 temporarily dealt also with the affairs of the Aphroditopolite, as the former oecome of this nome, *Thcokles*, had just resigned and the new official, *Aristandrus*, was not yet appointed; he is first mentioned in the year 35. I am therefore almost certain that *Hermolaus* was the chief oecome of the Memphite, and that his connection with *Zenon* must be explained by the fact that the *δωρεὰ* of *Apollonius* in this nome was under the general management of *Zenon*; *Moithymis* and *Sophthis* were the two villages situated within the limits of the *δωρεὰ*, and *Kerke* was the landing place both for the Memphite and the Arsinoite *δωρεὰ* of *Apollonius*.

<sup>107</sup> *Themistius* may have been another holder of a large *δωρεὰ*; he is identical with the eponyme of the *Θεμιστον μερίς*. *Damis* was his agent as he was an agent of *Apollonius* (P.S.I. 500); i.e., the State official in charge of the large *δωρεὰ* granted to this important member of the court of *Philadelphus*.

518 where the nomarchy of Philadelphia is called Δάμιδος καὶ Ἐτεάρχου νομαρχία. The same two nomarchs appear also in P. Lille 2 and in P. Petrie II, 13, 16. In the last of these papyri, along with Damis, we have another nomarch named *Maimachus*. This Maimachus is mentioned perhaps more frequently than Damis and Etearchus in the documents of the years 33 and later (P. Z. 40, year 33; P.S.I. 513, year 34; 361, year 35; P. Petrie II, 26, 1 and 2—III, 64 (a), documents dated in the year 35, and in the year 8 of Euergetes; II, 39 (h)—III, 49; II, 13, 16—III, 44, 1; II, 39 (a)—III, 88; II, 23, 2—III, 33, all undated; P. Hal. 12; P. Lille 5). This chronological and territorial overlapping of the nomarchi is awkward. We may suppose that Maimachus became associated with the brothers Damis and Etearchus, but his nomarchy bears his name just as the nomarchy of Damis and Etearchus bore their names. Another solution of the problem would be that Maimachus was the nomarch of the neighboring nomarchy, to which belonged a part of the estate of Apollonius; but in the year 33 (P. Z. 40) Maimachus acts in the affairs of some peasants of the estate in the same fashion as Damis does in P. Z. 35, year 32. I see no solution of this problem as yet.

The question of the functions of the nomarchi has never been fully investigated. The frequent references to them in the R. L. gave the opportunity to Grenfell to deal briefly with them (R. L., p. 133), and he came back to the same topic in P. Tebt. I, 213. Wilcken devoted a few lines to them (*Grundz.*, p. 10), and after him so did Martin (*Les épistrotètes*, p. 141), although Martin dealt almost exclusively with the Roman period. And yet for none of the officials of the early Ptolemaic time have we such full evidence as for the nomarchi. Let me therefore deal with them a little more at length.

In his investigation of the historical geography and topography of the Fayum in P. Tebt. II, Grenfell pointed out that the Arsinoite nome was divided from the early Ptolemaic epoch into districts which do not coincide with the well known merides of the nome, those of Polemon, Herakleides and Themistus; but like the merides, these regions are designated by the names of their chiefs,—the nomarchi. These sections were in their turn subdivided into merides, not to speak of the

well known subdivision into toparchies and villages. We do not know what the boundaries of the different nomarchies were, except that they probably did not coincide with the boundaries of the merides; this of course is not quite certain.

Within the limits of their nomarchies the nomarchi dealt exclusively with the agricultural life of their territory. The farming of the revenues forms a part of their duties as far as these revenues were derived from the direct exploitation of the land. For example, they play an important part in the farming of the oil and wine revenues (see the R. L.), and in the farming of the revenues derived from the pasture land, be it the tax of the *ἐννόμιον* or the farming of fisheries and hunting.

But their main domain is agriculture,—the land both arable and pasture. The nomarchi are in constant relations with the engineers who build the dykes and canals. In the contracts of Kleon (P. Petrie III, 42, F) they are members of the commission which gives out the work on the dykes and canals to contractors. In the contracts of Theodorus, the successor of Kleon, although they no longer take any part in the activity of the commission mentioned above, they often appear at the end of the contract, sometimes as the contractors themselves.<sup>108</sup> I find no other way of explaining this fact than to suppose that in case of necessity, in case of lack of contractors, the nomarchi *ex officio* took over the work instead of contractors, and used, of course, compulsory labour. The frequency of such cases in the papyri mentioned above proves that it was not an easy task to find contractors in Egypt under the conditions which were prescribed by the law. It is also in the rôle of contractors that the nomarchi act when it is necessary to deliver great quantities of fascines of brushwood and reeds for the dykes, bridges and sluices.<sup>109</sup> This I explain by assuming that the brushwood and reeds taken from the marshy land (*ξύλοκοπία* and *θρυκοπία*) after this land was drained, remained at the disposition of the State and were disposed of

<sup>108</sup> P. Petrie III, 43, 2, col. I, l. 29, 30; col. III, l. 10; col. IV at the bottom; *verso*, col. IV, l. 6 ff. Highly important is P. Petrie III, 37 (a); cf. P. Hal. 12.

<sup>109</sup> P. Petrie II, 37-III, 44, 2-4, see especially *verso*, col. III; cf. III, 41 and 46, 1; II, 13, 20; II, 26, 1 and 2-III, 64 (a).



by the nomarchi who controlled the works called *ξύλοκοπία* and *θρυκοπία*. The fact that the nomarchi acted as contractors shows that they disposed of unlimited quantities of men (*σώματα*) working under compulsion but for a remuneration. It is proved by P. Petrie II, 9, 1, where the engineer Theodorus asks the sub-diocetes Diotimus to give an order to the nomarchi to send all their men for hasty work on the dykes. We see therefore that in respect to the engineering work done in the nome the nomarchi took an active part in their capacity as officials who disposed of the manual labour of the population, especially that of the crown peasants, and at the same time in their capacity as the officials who managed the whole of the unproductive land of their section. In this last capacity, for instance, they disposed of the pasture land by giving it out to herdsmen (P.S.I. 367 and 361).

When the engineering work had transformed the marshy or sandy land into land virtually arable, the nomarchi had to take care that this land should be plowed and sown and should yield a revenue to the State. As the chiefs of the crown peasants of their district and, so to say, as agents of immigration, the nomarchi dealt both with the existing groups of crown peasants and with new groups to be settled on the new lands. We have seen that many new settlements in the Fayum received their names from individuals with Greek names; this is especially true of small settlements like the *ἐποίκια*,—hamlets.<sup>110</sup> These names were probably the names of the men who owned and settled these places. The fact that the sections administered by the nomarchi bear their names testifies therefore that they were the settlers of these districts. I have no doubt that the original three sections,—merides, of the Fayum, which received the names of Polemon, Herakleides and Themistus, preserve in these names the record of their being settled by men bearing these names, probably the first nomarchi of the Fayum.

As managers of the new lands the nomarchi entered into agreements with the crown peasants on the conditions of work on the new lands and of the payments to the treasury. They supervised the work of these peasants, tried to settle misunder-

<sup>110</sup> See the list of Grenfell, P. Tebt. II and above p. 9.



standings, disturbances and strikes, and had even a certain power of ousting the peasants from their refuges in the temples and sacred precincts (P.S.I. 490, 502, 536; P. Z. 34, 35, 40; P. Lond. Inv. 2090, 2096).

In the same capacity as managers of the productive and unproductive land, the nomarchi took also an active part in the assignment of the new lands to the military holders of these lands and to the holders of the *δωρεαί*, and after the land had been assigned they took care that land properly prepared for cultivation was plowed and sown (P.S.I. 500). For this purpose they again used the masses of the crown peasants, acting as intermediaries between them and the new holders of the land. We must not forget that the land given to the cleruchi and to the holders of the *δωρεαί* remained the property of the King, changing its status only temporarily. It is not surprising that the nomarchi cared also for the lands which came back into the hands of the State (P.S.I. 536).

As the managers of the land the nomarchi naturally took charge of a rational distribution of the crops, according to the needs of the State. The famous P. Petrie III, 75 (cf. II, 23, 2-III, 33), which contains a report on the distribution of crops on a territory of 180,000 arurae in the year 12 of Euergetes, was probably compiled by the nomarch for the use of the oecome on the basis of the reports of his assistants, the toparchi, who in their turn certainly drew their information from the reports of the komarchi and the village scribes. P. Petrie III, 75 has been regarded generally<sup>111</sup> as a report dealing with the whole amount of the sown land of the nome. This of course is impossible. 180,000 arurae do not represent

<sup>111</sup> Even by myself in Pauly-Wissowa-Kroll, R. E., *Fruentum*; cf. P. Meyer, P. Hamb. 24, Intro. This conception of the document is based on the introductory formula: *παρ' Ἀμμων[ίου] νομάρχου τοῦ Ἀρσινότου τῆς/κατεσπαρμένης γῆς εἰς τὸ ἔγ ξρος/ ἕως Ἀθὺρ λ, καθότι ἐπέδωκαν οἱ τ[ό]παρχοι./ ἐν τῷ Ἀρσινότῃ*, follows the list. But this heading, as I see now, does not mean that the crops of the whole of the Arsinoite nome were enumerated but that in this list that portion only of the nomarchy was taken into consideration which formed a part of the Arsinoite nome. It is probable therefore that the area of a nomarchy may have included lands situated in different nomes, and therefore a nomarchy was not a subdivision of a nome but was a special division for special purposes of an economic nature.

the area of the sown land of the Arsinoite. The fact that the report was compiled by a nomarch shows that it deals with the arable land of one nomarchy only, perhaps with the arable land of one of the three merides. Our papyrus enables us therefore for the first time to judge the size of a nomarchy.

Finally, in the same capacity as managers of agriculture, the nomarchi were closely connected with the payments of the rent of this land to the State, whether land sown with cereals or oil plants, or land planted with vines or trees, or land used as pastures.

To the question of the origin of the nomarchi I cannot give any definite answer. There are two opinions on this subject. Wilcken (*Grundz.*, p. 10) links the nomarchi of the Ptolemies with the nomarchi of Alexander who were probably governors of the nomes. Grenfell on the other hand (see above p. 152), disconnects both and explains the title nomarch as a new formation derived from νέμω, i. e., to distribute, the nomarchi being, so to say, chiefs of the distribution of land and crops. Against Wilcken is the fact that in the Fayum the nomarchi never had to do with the whole of the nome, but from the first only with sections of the nome. Against Grenfell is the indefiniteness of the name and its separation from the similar terms *τοπάρχαι* and *κωμάρχαι*. I should propose therefore the solution that *νομός*, a section, in this case means not a district of Egypt as a whole but a district of the region called *Λίμνη*,—lake. For distinguishing between the two, the name used for these last districts was not *νομός* but *νομαρχία*, like *τοπαρχία* which is equivalent with *τόποι*, places. The first sections of the Lake district were called merides and their chiefs perhaps *μεριδάρχαι*; the subsequent subdivisions of these merides received a different name, to distinguish them from the merides, and were called not *νομός*,—district, but to avoid confusion, *νομαρχία*. In any case the name has a topographical not an explanatory meaning: like toparch, and not like oecome or dioeketes. I doubt very much whether between the nomarchi of Alexander and those of Philadelphus there is any historical connection. The explanation for the division of the Limne into merides first and into nomarchies later lies in the important and complicated character of the functions of their chiefs, functions which

required special acquaintance with local conditions and special ability in dealing with the native population; this is also the reason for employing men of native origin for these offices. No one man could master such a task in a large district; the presence of the nomarch might be required at any moment in one or another part of his nomarchy. The nomarch ought to be in constant touch with the population, and in all the complications recorded in our documents we see that the nomarch is always at hand and the oecnome is usually absent.

In such provinces as the Fayum the nomarchi naturally played a very important part in the administration of the province, while their rôle was much more modest in the other nomes of Egypt. It is also only natural that their importance gradually decreased rather than increased, even in the Fayum. The nomarchy as an institution gradually lost its individual character and occupied a modest place in the series of various officials who worked in a nome in the last half of the third and in the second century.

If I am right in my description of the office of the nomarchi, their rôle in the life of a *δωρεά*, their importance for this life, and their constant relations with the manager of the *δωρεά*, need no special explanation. The *δωρεά* of Apollonius was one of the toparchies of a nomarchy, and the managers of the *δωρεά* therefore were the nearest subordinates of the nomarchi. But as these subordinates were agents of the dioeketes, the rôles were inverted, and the nomarchi were agents of Apollonius rather than chiefs of the district held by them.

## APPENDIX II

### ZENON UNDER EUERGETES

I have dealt in the text of my article with the correspondence of Zenon for the last years of Philadelphus, but the correspondence did not stop at the year of the death of Philadelphus. We are in possession of some letters and documents dated in the first eight years of Euergetes (see Vitelli, P.S.I. VI, p. XIII, to the no. 397, cf. P.Z. 64), and written by Zenon or for the most part addressed to him. We have rarely had occasion to quote these letters in dealing with the estate of Apollonius, because the character of the correspondence changes suddenly with the first year of Euergetes. None of the letters of this period can be referred to the affairs of the *δωρεά* and none even mentions the name of Apollonius. Yet Zenon still resides at Philadelphia and his interests remain the same, mostly material interests connected with agriculture, viticulture or cattle breeding.

I cannot believe that this sudden change is accidental, and I propose an hypothesis for explaining it. Of course it is merely an hypothesis, as our evidence is much more scanty than for the preceding period. We have seen that Apollonius disappeared from the stage with the first year of Euergetes and we had every reason to suppose that his career did not end in a peaceful way. The *δωρεά* of the former dioeketes disappears apparently at the same time. Is it an accident? Must we not assume that the *δωρεά* of Apollonius returned to the State and that Philadelphia became an ordinary village? But Zenon did not disappear: he remained at Philadelphia and his correspondence is still copious and full of interest. Let us investigate a little more closely the character of this correspondence.

Zenon apparently even at this period kept his connections with Alexandria, and still had some influence. In P.S.I. 392, year 6 of Euergetes, Hermocrates writes to him from Alexandria asking for help in his hardships. He has to stand trial before the King and is anxious to be acquitted; the matter seems to be of a financial character, as is shown by the technical expression *ἀφείσις*. He endeavours to get this acquittal by means of

bribes to those nearest the King and by seeking protection. He is short of money and asks Zenon to loan him some; in case of acquittal he will give back double the amount. He asks also for letters of recommendation. If Apollonius were alive and had kept up his connection with Zenon we should have every reason to expect mention of him, a hint at him in such a letter. Not a word is said about Apollonius.

Moreover we have seen that in the time of Philadelphus Zenon was the chief administrative official at Philadelphia. The police force of Philadelphia was certainly at his disposal. Now in his correspondence he appears as a plain inhabitant of Philadelphia writing petitions to the chief of the local police. In P.S.I. 396, year 7 of Euergetes, he complains to Horus, the chief of police, of the robbery of his wine cellar; another complaint of robbery is written in the year 6 by two farmers of his vineyards (P.S.I. 393).

Whereas in the official documents we met the official title of Zenon added to his name, we now meet with the plain designation of him and the members of his family, as *παρεπίδημοι* (P.S.I. 389, year 5; cf. 529), i. e., as men who did not legally belong to the population of Philadelphia, to those attached to this village whether Greek cleruchi or natives. Was he still officially a resident of Alexandria although not in possession of the citizenship of Alexandria? It is evident that if he is not called by his official title it means that he has none. If he were an official and not a private agent of Apollonius he would have still kept his title as "former so and so." But he is *παρεπίδημος* and nothing more.<sup>112</sup>

We may assume therefore that Zenon under Euergetes was no longer the manager of the *ῥωρεά*, but a rich and influential Greek bourgeois residing in Philadelphia. His years of work under Apollonius had apparently been profitable, and he had retired to private life as a wealthy man.

<sup>112</sup> The same title is given in an official document to the faithful assistant and perhaps relative of Zenon,—Jason from Kalynda, P.S.I. 385, year 2 of Euergetes. In this document Jason rents a clerus in Philadelphia. Cf. P.S.I. 394. The fact that these documents, which belong to Jason and not to Zenon were found in Zenon's archives testifies to the fact that Jason was a companion and probably a relative of Zenon.

His economic affairs at this period are extensive and various. He was certainly in possession of large vineyards (P.S.I. 393, year 6). His companion in these affairs was Sostratus, probably the same man who was the brother of Damis and Etearchus and an agent of Zenon.<sup>113</sup> The vineyard in question was very large,—60 arurae, and was situated in the neighborhood of Philadelphia. Two vinedressers were in charge of this vineyard, both Jews, Samuel and Alexander. They complained to the chief of the village police that somebody had stolen from the vineyard 30,000 reed props for the vines which had cost 12 dr. For the wine of this vineyard and perhaps of others large jars were manufactured (P.S.I. 420, year 5), which, full of wine, were kept in a special wine cellar; P.S.I. 396 mentions a robbery from this cellar of 19 *κεράμια* of wine. It seems also that Zenon paid large sums to the treasury *τιμῆς οἴνου* (P.S.I. 386,—200 dr.).

Not less important was his cattle breeding. He seems to have specialized in goats. In P.S.I. 386 he pays his *ἐννόμιον*, pasture tax for not less than 500 head. In P. Lond. Inv. 2084, year 4, his herdsmen are going to strike. Two are preparing to strike and one has already gone. The writer of the letter is Pataikion who was connected with Zenon for some years (P.S.I. 363 and 572, year 35; 404; 641; 620, 18; 629, 11), probably as one of the farmers of the estate. In P.S.I. 626 along with the other owners of sheep Zenon pays money for the *ἐννόμιον* and is registered for 175 sheep. One of the other owners is Jason whom I have mentioned above, and another is Sostratus who

<sup>113</sup> Here again we may suppose that all these men were relatives,—a nest of Kaunians and Kalyndians. Sostratus is known from many documents part of which I have mentioned before. In P.S.I. 410, he is again connected with Zenon; the third person mentioned in this papyrus is Keleesis, the same who appears in our papyrus as a neighbor of Zenon and Sostratus. I have no reason to suppose that the brother of Sostratus, mentioned in his letter to Hegetor (P.S.I. 431), was Zenon; the brother in question may have been either Damis or Etearchus to whom Sostratus sent some pigs from the herds of Appollonius for sacrifice. Nor have I reason to recognize in the Sostratus mentioned so often in the Zenon papyri, more than one man of that name. In any case the close connection of Zenon and Sostratus makes it probable that Sostratus was a relative or at least a fellow countryman of Zenon.



owns one hundred sheep. The sheep of Zenon are in the hands of some shepherds: Pasis has thirty-five and Theodotus forty. Certainly Zenon at this period deals in wool (P. Lond. Inv. 2081, year 4) and is connected with the manufacture of woollen stuffs (P.S.I. 387, year 4; 593; cf. for the date, 389). As a companion of Sostratus Zenon seems also to have maintained his relations with the beekeepers (P.S.I. 524; cf. 391, years 6 and 7). Finally he possesses at least one bath at *Koîrai* (P.S.I. 395) and farms some land from other people (P.S.I. 390, year 5, cf. 388 verso and 385; cf. P.S.I. 400 and P. Z. 43). But his main occupation seems to be lending money. In the year 5 he lends 150 dr. to a cleruch (P.S.I. 389). Perhaps to the same period belongs P.S.I. 529 where Nomus asks Zenon to lend him money and offers as pledge his slave. Also not dated is P.S.I. 532: two sons of a woman Thamoos are in prison for debt; the mother asks to have them released and promises that they will repay the loan by working for Zenon. Zenon seems to have begun such operations a long time before he resigned or was dismissed (P.S.I. 369, year 36).

Such was the independent husbandry of Zenon after he ceased to be the manager of Apollonius. We may suppose that Zenon was a prominent person at Philadelphia during his stay there in the first seven years of Euergetes. One of the papyri of this time (P.S.I. 391, year 6) shows him being consulted about the money to be spent for the gymnasium of Philadelphia; the persons interested in it were cavalry soldiers who formed the main part of the Greek inhabitants of Philadelphia.

### APPENDIX III

#### APOLLONIUS THE DIOEKETES AS A CONTRACTOR OF PUBLIC WORKS?

In discussing the construction of dykes, canals and sluices in the Fayum under Ptolemaeus Philadelphus, I have not mentioned a curious series of papyri which deal with the work of stone cutters (λατόμοι), who were partly free men (ἐλευθερο-λατόμοι), in the quarries somewhere near Philadelphia. The series in itself seems to have no relation to the works carried out on the estate of Apollonius, but seems to be closely connected with the activity of Apollonius as dioeketes. The work done by the stone cutters was certainly a part of the irrigation work, which included the creation of a system of land and water ways in this part of the Fayum.

The key for understanding the whole series of documents is given by two Papyri Petrie, II, 4, 2—III, 42 (c), 4 and II, 13, 1—III, 42 (c), 12, both of the year 30. The first of these papyri is a letter of Apollonius to Kleon the engineer concerning a contract concluded by Apollonius and the tenmen (δεκατάρχαι) of the stone cutters through Diotimus as the intermediary. According to the contract Kleon must supply the stone cutters with the iron implements for their work. There is no doubt that Apollonius, the author of this letter, is Apollonius the dioeketes and Diotimus, his assistant, is the sub-dioeketes. The second papyrus mentioned above refers to the same contract and speaks of Apollonius as the dioeketes. The tenmen of the stone cutters complain in this document that they do not get what was stipulated in their contract (γραφή) which is in the hands of Diotimus the sub-dioeketes and Dionysius the oecome. The same stone work forms the subject of one of the papyri of the correspondence of Zenon (P.S.I. 423, no date). The document is a letter of Horus who digs wells (φρέατα) and ditches (ὀχετοί). He denounces in this letter another man who works in the same region, using the labour of prisoners (δεσμῶται), and offers to carry out all the work alone as he is well provided with men. Zenon, to whom the letter is addressed,

should come to measure the work already done and should also send food for the workers. Is it an accident that prisoners (*δεσμῶται*) sent by Apollonius appear again in P. Petrie II, 13, 3 and 4, cf. 4, 10—III, 42 (c), 8 and 9? In P. Petrie II, 13, 3, they are building an *ὀχύρωμα*, that is, walls to strengthen the banks of a canal for the construction of a bridge or sluice. The editors understand *ὀχύρωμα* as a prison! Other papyri of the same series also refer to Apollonius. In P. Petrie II, 4, 8—III, 42 (c), 1, one hundred and forty stone cutters are idle; they point out that the dioeketes may be angry as he wants speedy work (*τοῦ διοικητοῦ σπείδοντος*). Similar complaints are found in P. Petrie II, 4, 1,—although Apollonius the supervisor of the work (*ἐργοδιώκτης*), of this papyrus is of course not Apollonius the dioeketes, and also in P. Petrie II, 4, 9—III, 42 (c), 2.

How can we explain the active part taken by the dioeketes in this work of the stone cutters? He appears here not only as a person interested in the progress of the work but also as the employer of the stone cutters. The explanation of this fact may be found in P. Petrie II, 13, 18 (b) and 13, 6—III, 42 (g), 7 and 4, no date, which tell us that a certain Apollonius, "for the purpose of relieving the King" (*κουφίζων τὸν βασιλέα*), took over as a contractor the whole work in the quarries, and was giving out parts of the work to minor contractors. May we not connect this papyrus with the series referred to above, and also with another series which deals with the repair of the roads in this part of the Fayum; for this purpose stone is being brought on special barges (*λιθηγοί*)? (See P. Petrie II, 13, 18 (a) and III, 46, 1.) The work is done at full speed because the administration expects a visit from the King. Apollonius himself asks for reports on the progress of this work (P. Petrie III, 46, 1).<sup>114</sup>

I cannot help thinking that the three series of documents form a unit. I suppose that a visit of the King was imminent. He intended to come for an inspection of the irrigation work. We know from one letter of Metrodora, wife of Kleon the engineer, that this visit ended badly for Kleon. Is it not natural

<sup>114</sup> Perhaps this journey is identical with that of the year 32, which was announced by Athenagoras to the oecome of the Memphite Hermolaus. See the letter of Bubalus to Zenon, P.S.I. 354.

to assume that Apollonius, well acquainted with the plans of the King and seeing that the work progressed but slowly because of the lack of contractors, decided to take up the work himself and to carry it out by means of subletting the work to minor contractors and to squads of free stone cutters?<sup>115</sup>

<sup>115</sup> I do not discuss here the opinions of the other scholars who have dealt with the same series of papyri. See their works quoted above in note 61.

## APPENDIX IV

### THE HISTORY OF THE ΝΟΜΟΙ ΤΕΛΩΝΙΚΟΙ OF PTOLEMY PHILADELPHUS

As far as I know nobody as yet has investigated the history of the Revenue Laws, the νόμοι τελωνικοί of Ptolemy Philadelphus. And yet the document itself tells its history. The first part of the papyrus contains the general νόμος τελωνικός, which dictates the general conditions on which the farms were given out. It is dated probably in the same year of Philadelphus as the law on the apomoira and the law on the ἐλαικὴ, in the year 27 of his rule. More complicated is the history of the following section which deals with the apomoira. The new organization of the tax called apomoira, a sixth or a tenth of the produce of the vineyards and gardens, was introduced in the year 23 of Philadelphus. In this year are dated two orders (προστάγματα) of the King each followed by a single πρόγραμμα or διάγραμμα. The orders are short and of a very general character, introducing the προγράμματα or διαγράμματα, which in their turn prescribed certain preliminaries to the collection of the apomoira. I have mentioned and described them in the text of my article, p. 42 ff. No detailed measures for the collection of the apomoira are published in our document with the orders of the year 23. But such measures originally existed in the series of documents of the year 23. In the existing document they are replaced by the order of the year 27 and by the text of the law on the collection of the apomoira. The history of the law on the apomoira was then as follows. In the year 23 three orders were published by the King: two of them introduced orders to collect preliminary statistics necessary for the collection of the apomoira; the third introduced the law on the collection of the apomoira and ordered the collection to be carried out. In the year 27 this last order and the law were republished with modifications and were dated in the year 27; the first two orders of the year 23 were appended to this order and to the law.

The next section of the R. L. contains the νόμος ἐλαικῆς. There are no documents appended to this law. The law

apparently was a new one, first introduced in the year 27 by Philadelphus. The first lines of this section are missing. But I presume that there was no πρόσταγμα at the beginning but simply a heading, e. g., Διάγραμμα ἐλαικῆς like Διάγραμμα τραπέζων (col. 73) or Νόμος ἐλαικῆς like Νόμος δεκάτης (col. 80). We know too little of the Hellenistic legal terminology to understand the difference between νόμος and διάγραμμα. The heading of the next section, that on the ὀθονιηρά (col. 87 ff.), is not preserved.

The whole document seems to be an attempt at a codification of the rules which regulated those parts of the State economy which were organized as incomes of the State collected by tax farmers. Some of the taxes which were dealt with in the new law were farmed before the publication of this attempt at a codification; for some taxes the farm system was first introduced by the new law. The "Codex" was published by the order of the King by the dioeketes Apollonius and was compiled by his officials. The notes in the copy which preserved for us the regulations (col. 22 and 38) were written by the man who was sent to Alexandria to copy the roll for the officials of the Fayum and who made the copy in the office of the dioeketes Apollonius. If my attempt at tracing the history of the R. L. is correct, we may assume that Satyrus, the predecessor of Apollonius, was the author of the Νόμος ἑκτης, the law on the apomoira, and that Apollonius was the author of the codified Νόμοι τελωνικοὶ and of the Νόμος ἐλαικῆς.



## APPENDIX V

### THE BREEDING OF HORSES BY PTOLEMY PHILADELPHUS

In the works on the organization of the Ptolemaic army no attention has been paid to the highly important question as to how the Ptolemies supplied their cavalry with horses. We must keep in mind the fact that cavalry played an important part in the Ptolemaic army in three subdivisions: the horse regiments, the elephants or tanks of the ancients, and the armed chariots which were a heritage from the ancient Orient. On the means by which the army was supplied with elephants, see my articles in *Arch.* IV, p. 301 and V, p. 18; Lesquier, *Les institutions militaires sous les Lagides*, p. 353; Wilcken, *Grundz.*, p. 263, and the new evidence in P. Tebt. III. But the question of the horses was never treated in full and there are only a few words in Lesquier, l. cit., p. 103. If we take into account the picture which is given by Appian of the strength of the Ptolemaic cavalry (Appian, *Prooem.* 10: καὶ τοῖς ἐμοῖς βασιλεῦσι μόνοις ἦν στρατιά τε πεζῶν μυριάδες εἴκοσι καὶ μυριάδες ἵππέων τέσσαρες καὶ ἐλέφαντες πολεμισταὶ τριακόσιοι καὶ ἄρματα ἐς μάχας δισχίλια), we must suppose that large studs existed both in Egypt and in the Ptolemaic provinces, especially in such provinces as the Ammanitis,—a large prairie land famous for its horses (see above note 35). We have seen that Tubias, the sheikh of this land on one occasion sent to Philadelphus as a personal present (ξένια) horses and donkeys. Horse breeding was certainly carried on in Egypt also in spite of the unfavourable conditions. Studs in Middle Egypt and in the Arsinoite are often mentioned in the Hibeh, Petrie and Tebtunis papyri (see P. Hib. 118, a, col. II and b, col. I; 162; P. Petrie III, 62 (b); P. Tebt. 842—βασιλικοὶ ἵπποι and ἵπποτρόφοι). We have seen that Apollonius himself indulged in horse breeding on his estate. I should like to connect with these documents two documents of the Petrie series. P. Petrie III, 54 deals with horses of the Ptolemaic soldiers, probably cleruchi. Special inspectors of horses are mentioned and the duty of ἵπποτροφεῖν

(feeding the horses) seems to lie with the cleruchi. Can we not assume that the soldiers kept the horses given to them by the State even after the expeditions, when they were spending their time in their quarters (*σταθμοί*) or on their cleri, under the obligation of caring for the horses and of feeding them; by the way, a good parallel to the Roman *equites equo publico* and *equo privato*. Is the Antiochus mentioned in this papyrus not the same as the Antiochus of P. Hal. 1, 166, *Dikaionmata* p. 98? More instructive still is the series of documents P. Petrie II, 25—III, 61, year 21 of Euergetes. The editors call these documents "*Accounts of 'vetturini.'*" But a mere glance at the documents shows that they are accounts of food delivered to horses and men divided into *συνωρίδες* and *ἄρματα* (chariots of two and four horses?); the men are called *ἡνίοχοι* and *ἵπποκόμοι*,—coachmen and grooms. These horses and men were moving in detachments through Ptolemais Hormu, probably northward, and some of them stopped for a while at this landing place. Food was delivered to them on the order of the oecnome according to *τὴν παρὰ Ἀρτέμωνος τοῦ ἐπιστάτου τῶν κατὰ τὴν χώραν (ἵππων or ἵπποτροφίων?) ἐντολήν*. The names *ἄρματα* and *συνωρίδες* being technical names, the journey of the detachments must have had an official character. I have no doubt that the *ἄρματα* and *συνωρίδες* were either military chariots moving towards Alexandria for shipment to the place where the army was operating, or perhaps were race horses going to Greece to take part in some world-famous races. Either assumption is possible and both testify to extensive horse breeding in Egypt for the purposes of which a constant supply of fresh horses from Arabia was a prime necessity.

## ADDENDA ET CORRIGENDA

### CHAPTER I

While my manuscript was already in the press Mr. C. C. Edgar published three new articles on the Zenon papyri: V (*Annales du Service des Antiquités de l'Égypte*, XX, 19 ff.) containing nos. 49–54 and additions to nos. 36 and 46; VI (*ibid.*, p. 181 ff.) containing nos. 55–64, and VII (*ibid.*, XXI, p. 89 ff.) containing nos. 65 and 66. The new documents are mostly well preserved and each of them supplies us with new and valuable information. One new papyrus of the Zenon series was acquired by the University of Michigan (Inv. 40, quoted P. Mich.) and was published by Prof. A. E. R. Boak in the *Alumni Journal* of the University of Michigan for the current year in facsimile and translation. Finally Dr. H. I. Beil has sent me his copies of 22 new letters of the Zenon archives recently purchased by the British Museum. The study of these new documents has corroborated most of the views expressed in my paper. Except for some minor corrections which I was able to insert into the proofs of my book, I had nothing to change in the text. Nevertheless the new evidence is important; it throws new light on several debated questions and gives to some of my hypotheses the character of ascertained facts. Therefore I have thought it useful to report in these "Addenda et Corrigenda" on the content of the new documents and to assign to several of them the place which they should have occupied in my book had I had the opportunity of using the new evidence in time. Most valuable is the information on the end of the career of Apollonius and on the life of Zenon under Euergetes.

### CHAPTER II

Contemporaneously with the Zenon papyri documents of other periods were found in Philadelphia. Philadelphia seems to have been a vast field of haphazard exploration since 1914 and during the War. Beside those mentioned in the text, this exploration yielded the valuable papyrus containing an edict of the Emperor Hadrian which was lately published by Jouguet

in *Rev. d. études gr.*, XXXIII (1920), 375 ff. Some others of the same series and time are in the Cairo Museum and will certainly yield new information on the history of Philadelphia in the late Hellenistic and the Roman period.

### CHAPTER III

P. 20. My hypothesis on the disgrace and perhaps the violent death of *Apollonius* after *Euergetes* became King of Egypt was fully confirmed by two new documents of the Cairo Museum (P.Z. 61 and 55). The first is dated in the year 5 or 6 of *Euergetes*. It is a document dealing with the payments due from a surety of an insolvent contractor of Philadelphia. The persons to whom these payments were due are the former and the actual chiefs (*ἐπιστάται*) of the territory of Philadelphia which is called now officially "the Philadelphian toparchy" (*οἱ κατὰ Φιλαδέλφειαν* i. e. *τόποι*). This territory in l. 1 ff. of the document is described more fully as "the lands round Philadelphia, formerly the estate of *Apollonius*" ( . . . κατὰ Φιλαδέλφειαν τῆς πρότ[ε]ρον οὔσης Ἀπολλωνίου δ[ωρεᾶς]) and in l. 5 ff. the chief of the territory is called "epistates of the lands round Philadelphia when the estate of *Apollonius* has been confiscated after his death" (the Greek text is fragmentary and not yet satisfactorily restored in spite of the efforts of *Edgar* and *Grenfell*, but the general sense of the passage is clear). The date of this confiscation and of the death of *Apollonius* is supplied by the second Cairo papyrus, P.Z. 55, year 1 of *Euergetes*; my interpretation of this document is different from that of *Edgar*. The writer of this letter, probably addressed to *Zenon*, asks *Zenon* (?) to give him a new house in the village. He lived formerly in the house which belonged to *Phileas*, the former secretary of the *Arsinoites* (probably an officer, the secretary of the horsemen who were settled in the *Fayum*). "But now," he says, "as the estate was taken away from the dioeketes and they bid me to move from these quarters" he insists on receiving another house (l. 4 ff.: κ[ε]κόμισταί γὰρ τὰ ὑπάρχοντα παρὰ διοικητοῦ/καὶ κελεύουσι ἡμ[ᾶς] παρ' αὐτοῦ ἐκχωρεῖν). My interpretation implies that the writer of the letter lived in a house which was the property of *Apollonius* and was given by him to *Phileas* as a military lodging (*σταθμός*). Now when the house

was confiscated as a part of Apollonius' estate, the new administration bade the occupants move. If the letter were addressed to Zenon, he may still have been the manager of the former estate of Apollonius. If my explanation of the document be correct the confiscation of Apollonius' estate was carried out in the first year of Euergetes. The first of the documents quoted above decides the question as to what happened to the estate of Apollonius after its confiscation. The lands around Philadelphia formed now as before a separate territory; but it was no more a *δωρεά*, as it was not given to another holder but was managed by a state official with the title *epistates*. It is an interesting problem whether this was a temporary or a lasting arrangement and what kind of functionaries these *epistatae* were. From the Magdola documents we know of some functionaries with the title of *epistatae*. They seem to have acted as chiefs of police of this village. Can we identify their position with that of the *epistatae* of Philadelphia whose functions were of an economic, not of an administrative character? I reserve my judgment on this question and on the question of the *epistatae* in general until we have more material. Thus far, the *epistatae* seem to me to have been not regular but emergency officials (cf. Wilcken, *Grundzüge*, p. 412; P. Meyer, *Juristische Papyri*, no. 76 (p. 265), note 5).

No new decisive evidence is furnished by the new Cairo papyri on the question of the *successors of Apollonius* in the office of *dioeketes*. In P.Z. 62, year 6 of Euergetes, and P.Z. 63, year 7, two high officials are mentioned: Zenodorus and his chief Sosibius. The latter may be identical with the well known prime minister of Philopator, who played such an important part in the history of his reign (see Edgar, P.Z. VII, p. 91, note 1), comp. Anc. Gr. Inscr. in the Br. Mus. 819 which shows that he had at one time of his career close relations with the province of Caria). Both Sosibius and Zenodorus are dealing in these documents with economic and financial affairs of the country. It may be that Sosibius was the *dioeketes* and Zenodorus one of the *subdioeketae*. Edgar may be right in assigning Theogenes, the *dioeketes* of the years 5 and 6 of one of the Ptolemies of the third century B.C., to a later time, to the reign of Philopator (P. Petrie II, 38(b); P. Lille 3 and 4; Edgar, P.Z. VI, p. 198,

note 11. Be it as it may, we still have no decisive evidence on the immediate successor of Apollonius, whom I supposed to be Kleandrus.

P. 26. A series of new and highly interesting documents (P.Z. 54, year 39) throws new light on the *provincial administration* of the Ptolemies. The documents deal with Kalynda in Caria. I have no doubt that the *strategi* and *oeconomes* mentioned in these documents are officials of the central administration and not local magistrates. Their superior in their financial activities is the *dioeketes*. He and his subordinates in Caria are anxious to keep the finances of the provincial cities in good order and they exercise therefore strict control over them. That is the reason why they interfere in matters which may seem to be of purely local interest (cf. *Anc. Gr. Inscr. in the Br. Mus.* 897; Usener, *Neues Rhein. Mus.*, XXV, 49; R. Dareste, *Bull. de corr. hell.*, IV, 341 ff.). The Alexandrian administration had also of course the decisive word in all exemptions from taxation and from other burdens which in the first instance were managed by the local magistrates. The same kind of control was exercised later over the finances of the self-governing cities of the Roman provinces by the governors of these provinces (*proconsules*, *propraetores*, *legati*), the financial agents of the Emperors (*procuratores*) and later by special officials appointed by the Emperors, the *curatores* and *correctores*. It is only natural that the central administration paid much attention to the city finances as the cities were responsible for the taxes of their districts, and disorder in their finances deeply involved the finances of the State.

#### CHAPTER IV

P. 32. To the group of documents dealing with the *Alexandrian palaestra* and the boys who were educated there and in whom Zenon took such a vivid interest we may now add P. Lond. Inv. 2312 which is a somewhat corrected duplicate of P.Z. 11. Another duplicate of the same document giving the second part of P.Z. 11 is in the Cairo Museum (still unpublished). The study of the new document led me to reconsider our evidence on the palaestra. There is another explanation of the documents dealing with the palaestra which is perhaps more probable than that which I suggested in the text of my



article. In the Alexandrian palaestra boys were trained to take part in the contests and games which were organized on Greek lines by the Ptolemies in different parts of the country. One of the boys mentioned in the correspondence of Zenon, Pyrrus, was trained in athletics (P.Z. 11; P. Lond. Inv. 2312). Zenon bears the cost of his training and even apparently supports the family of the boy, especially his mother (P.Z. 11, l. 8 ff.; P.S.I. 443). He is keenly interested in his victory. The trainer of the boy and the director of the palaestra Hierocles explains to him in his letter that there is no reason whatever to be anxious about the success of the boy, as he is doing very well. "With the help of the Gods," he says, "I am confident that you will be crowned." The keen interest of Zenon in the issue of some contests is testified also by P.S.I. 364, year 35. Zenodorus informs Zenon in this letter that Dionysius, the brother of Zenodorus, has won the prize in the game in honour of the Ptolemies at Hieras Nesos (a village of the Fayum). Besides Alexandria there was a palaestra in Philadelphia which was supported by voluntary contributions of the inhabitants, P.S.I. 391. In this palaestra the cavalry soldiers who lived in the village were keenly interested. The director of this palaestra was Demeas; he died (P. Lond. Inv. 2096, l. 3) and was replaced by Agelaos and Philus in the year 6 of Euergetes. As in the Alexandrian palaestra boys were trained in Philadelphia to take part in the games. One of these boys, Herakleotes writes a long memorandum addressed to Zenon and to Nestor, P. Lond. Inv. 2096. The latter is identical with the person who wrote the letter P.S.I. 391, which informs us of the existence of and of the prevailing conditions in the palaestra of Philadelphia. Nestor and Zenon seem to have been honorary presidents of this palaestra. The boy Herakleotes is trained in music (*κιθαρωδική*). He received from his former director, late Demeas, by bequest a musical instrument, an *ὄργανον*; something happened with this instrument (it is now in the hands of a certain Kleon), and the boy asks to give him back this instrument or to buy for him another of the same quality. Moreover, the boy is anxious about his pension, which he receives apparently from Zenon and Nestor, and insists on this pension being increased. Herakleotes emphasizes twice that he is a free boy (*ἐλεύθερος*, l. 12 and 24), which implies perhaps that the palaestra educated not only

free boys but also slaves (note that Pyrrus is called *παιδάριον*). Such are the documents. What was the reason for Zenon to show so keen an interest in the palaestrae both in Alexandria and in Philadelphia and to support boys trained in these palaestrae, to invest in them large sums of money? It is hardly possible that Pyrrus and Herakleotes were relatives of Zenon and Nestor. They and their educators would certainly emphasize it in their letters if it were so. On the other hand the victory of Pyrrus is the victory of Zenon and Zenon was very anxious about this victory. He is afraid to waste his money. We may of course suppose a purely sportive interest of Zenon and Nestor. But is it not more probable that the interest was not only of a sportive character but that Zenon and Nestor were interested materially in the victory of their boys? In the Hellenistic period the Greek agones were contests of professionals and the prizes consisted not only in crowns but also in comparatively large sums of money. Large sums could be also gained by betting on the best trained boys. The matter requires careful investigation which cannot be given here. Our documents must be compared with the inscriptions of the same period. See meanwhile F. Klee, *Zur Geschichte der gymnischen Agone an griechischen Festen*, Leipzig, 1918, a book which I was unable to consult.

P. 41. My hypothesis of *Artemidorus* having taken the post of oecome held formerly by Zenon in the household of Apollonius seems to be confirmed by P.Z. 49, of the year 39. In this letter Artemidorus appears as a man entitled to send out instructions for Zenon. In P.Z. 50, of the year 36, we meet *Kriton*, the stolarch. His agent is buying up grain probably for Kriton.

## CHAPTER V

P. 50. A duplicate of P.Z. 36 (P.Z. V, p. 19), l. 20 shows that Philadelphia even under Zenon had a *village scribe* (*κωμογραμματεὺς*). From the year 31 to the year 36 the duties of the village scribe were performed in Philadelphia by *Anosis*, see P.S.I. 356, 4; 434, 11 ff.; 441, 26; 664, 5; P. Lond. Inv. 2310, 21, an Egyptian. My statement in the text should be corrected according to this new evidence.

P. 52.<sup>116</sup> From some new documents and from several already mentioned in the correspondence of Zenon we may infer that Apollonius was not the only owner of a large estate in the neighborhood of Philadelphia. Many other men of his standing seem to have had either *δωρεαὶ* or large military holdings in this part of the Arsinoite. Such a rich and influential landholder was *Philinus*. In P.S.I. 513, l. 11, year 34, he is mentioned as the eponyme of a military corps, some officers of which received lands in the territory of Philadelphia. He occupied therefore a very high military position under Ptolemy Philadelphus. With Zenon he was in constant relations and certainly on very friendly terms. In P.S.I. 569 he is sending to Zenon some specimens of rare fowl especially cocks and hens (see above p. 110) and asks Zenon to give to his agent Moschus some double cloaks. In P.S.I. 527 Zenon sends to him some donkeys with suitable harness. But the most characteristic documents are the letters P. Lond. Inv. 2307 and P.S.I. 600. In the first Philinus asks Zenon to deliver to a certain Posidonius one keramion of sweet wine and to send to himself some boiled wine, some honey and an animal for sacrifice, probably a calf. Zenon must hurry "for we must be in time for the visit of the King." Another short billet of the same type and probably time is P.S.I. 600. Philinus asks Zenon to hand over a calf to a servant of Diognetus, the calf-breeder to be sent in safety to Philinus. It is evident that a visit of the king was imminent, and Philinus was preparing a banquet for him. I cannot help thinking that another banquet of the same kind was given to the King in Philadelphia itself by Apollonius or by Zenon in his name. We possess a curious list of names in the archives of Zenon (P.S.I. 548). The list contains thirteen names, all Greek. One of the persons enumerated in this list is Philinus, another Posidonius, his friend mentioned above, two more are Themistus and Zoilus, son of Telestes. We shall see presently that both Themistus and Telestes were persons of high military rank. I cannot help thinking that the names in the list are those of the officers who lived near Philadelphia and whom Zenon intended to invite to take part in the reception of the King.

Another neighbor of Apollonius and probably holder of a large estate was *Telestes*. He is mentioned several times in the

<sup>116</sup> Cf. p. 76, note 67 and 151, note 107.

Zenon papyri. In P.S.I. 502, l. 15, Zoilus the oecosome accompanied Telestes in his journey of inspection; in P.S.I. 569 his agent Libanus is mentioned, and the same Libanus is mentioned again in 562 as a man who had at his disposal some camels. There is no doubt that Telestes is identical with the general mentioned twice in the Hibeh papyri (85, 14 and 99, 8). From P. Lond. Inv. 2308 we may conclude that he owned land and herds in the neighborhood of Philadelphia. In the year 6 of Euergetes Phantias, an agent of Zenon, buys for Zenon 81 sheep sold "at the auction of Telestes," l. 8 and 15 (ἐκ τῆς Τελέστου / ἀπαρτείας). The same sale is meant and the same Phantias is acting in P.S.I. 438, cf. 539. Apparently Telestes and his estate have met the same fate as did Apollonius and his estate. Under Euergetes the lands and the belongings of Telestes were confiscated and sold at auction. Zenon did not fail to profit on this occasion. He buys rare sheep for a ridiculous price—81 sheep for 64 drachmae. Finally *Themistus* was the holder of an estate near one of the many villages of the Fayum with the name Ptolemais (P.S.I. 366, year 36). *Themistus* was probably the man after whom the "region of Themistus" (Θεμίστου μερίς), one of the three subdivisions of the Arsinoite nome was named. As P.S.I. 366 names the well known Damis as the agent of Themistus we may conclude that the estate of Themistus belonged to the same nomarchy as that of Apollonius. I remind the reader that Themistus is one of the officers enumerated in the list, P.S.I. 548.

## CHAPTER VI

P. 62. With P.S.I. 488 must be compared the fragmentary but exceedingly interesting P. Lond. Inv. 2315. Like P.S.I. 488 it is an offer of a contractor to undertake some work connected with the building activity of Apollonius near Memphis. A certain Techestheus makes an offer to Zenon to extract some gravel (χάλιξ) from a rocky place near Memphis and to deliver it for shipment. The offer reminds one of the contracts concluded by Theodorus, the architect. In a postscript the same man offers his services for providing a village (Philadelphia?) with water. In a somewhat similar document, P. Lond. Inv. 2311, a man whose name is not preserved, but whom I suspect to be the engineer Kleon, orders Apollonius to reinforce one of

the sluices, probably in the territory of Philadelphia. Apollonius has at his disposal a man with the name Leonidas and a workman on a monthly wage (*καταμήνιος*).

P. 69. It is worthy of note that along with a garden which was planted for Apollonius in Philadelphia (P.Z. 21, year 29) a grove of trees or a park (*ἄλσος*) was also planted, probably at the same time, P. Lond. Inv. 2313, l. 8. The superintendent of this planting is Hermogenes; ten slaves are helping him. There was also a large fruit garden in Philadelphia (*παράδεισος*) of which the managers were Herakleides and his son Ptolemaeus. P. Lond. Inv. 2313, col. 3.

## CHAPTER VII

P. 81. Another farmer of the type of Dionysius was *Paopis*. His letter to Zenon is preserved in P. Lond. Inv. 2316. He built for himself a house in Philadelphia and was therefore an emigrant. His parcel like that of Dionysius consisted of marshy land covered with reeds and brush wood. For the clearing of this land he received a payment in money: he claims that one hundred drachmae for the clearing of twenty-four arurae were still unpaid; the operation which he performed he calls *ἐπικοπὰς* cf. P.S.I. 323. But there was not very much wood on his plot, mostly reeds. An interesting feature of his husbandry is that he has a sub-farmer and uses hired labour (*σώματα*) which of course was paid for in kind and in money by the estate—another instance of the estate furnishing labour to the individual farmers. Still more interesting is P. Lond. Inv. 2312. It is a long expense account. In the first column are enumerated farmers, superintendents of different parts of the estate who received labour, probably slave labour (*παιδάρια*) from the estate and money for its payment. I suppose that the labourers were slaves since for the hired labourers the correspondents of Zenon use not the word *παιδάρια* (cf. *παιδίσκαι* P.S.I. 667 and *παιδάρια* P.S.I. 628, 20) but either *σώματα* or *μισθωτοὶ* or *καταμήνιοι*, and the terms *παιδάρια* and *παιδίσκαι* are frequently used for men and women employed in the textile industry. Some of the superintendents who are enumerated in the account are well known to us: *Kerkion* who grows wheat (cf. P.S.I. 422; 570) employs thirty slaves for weeding his fields; *Mys* (P.S.I. 640, cf. 551 verso l. 20; 576, l. 1) employs the same number for



weeding his flax; *Labos* (P.S.I. 427, 6 and 371) employs fifteen men for clearing his chick-pea crops; *Peteminis*, an Arab (P.S.I. 368; 519, 1; 596), employs thirty for his kiki-plantation; *Onnophris* (P.S.I. 427, 12; 422; 522, 4; 588; 639; P. Hamb. 27) received ten slaves for weeding poppy crops. Besides these we have *Andronicus* who plants olive trees with the help of ten slaves, *Hermogenes* who plants a park with the same number of slaves and *Herakleides*, the superintendent of a fruit garden (cf. P.S.I. 672, see above p. 177). A certain Dionysius is called "planter" (ἐντροπγός) and receives a monthly payment. *Agathon* is perhaps identical with the farmer of P.S.I. 400. Some other names occur in the document for the first time, probably wage-workers. The document is very instructive as showing the variety of crops grown on the estate and the large number of men employed for the purpose.

P. 89. It is evident that the estate of Apollonius carried out many and various *commercial operations* connected with the economic life of the estate. The estate had many goods to sell and no less to buy. The special agent of Zenon in this respect was *Sosus*. He was mentioned in many documents but his functions were not quite clear to me (P.S.I. 362, year 35; 589 (no date); cf. 439, year 4 of Euergetes). That is the reason why I have not mentioned him in the text. P. Mich. Inv. 40 leaves no doubt as to his functions. He is the salesman of the estate. He sells grain. He superintends the purchase of hides. He ships wine. He has on hand some gum, evidently for sale also (gum-styrax, modern storax, was taken from trees in upper Egypt; in P.Z. 63, year 7 of Euergetes one of the "Carian nest," Sostratus, mentions his expedition to upper Egypt for this purpose; the operation is called ὀπισμός; cf. P.S.I. 628, l. 10, note and 620, l. 6, note). Another agent of the same kind was *Pyron*, P.S.I. 418 and 571, who was employed by Zenon for different purposes. His business is big enough to oblige him to have in his pay two secretaries. In P.S.I. 571 he is engaged in buying up poppy seed. It is typical that Pyron asks Zenon to give him a parcel of land. It shows that many of the agents of Zenon were farmers "on the side" so to say. The fragmentary letter P. Lond. Inv. 2326 which deals with matters similar to those touched on in P. Mich. Inv. 40 may have been written by the



same man, Sosus. Besides grain and wine the estate produced and sold large quantities of hay, P.S.I. 354 and 559. I suppose that hay was bought up by the State for the cavalry horses, cf. p. 183.

### CHAPTER VIII

In P.Z. 51, year 37 we meet two more *vine-dressers*, *Apolonius* and *Menippus*. The same document testifies again to the production of vegetables in the vineyards. The man with the name *Metrodorus* (P.Z. 51, 52; P.S.I. 429, 29; P. Lond. Inv. 2323) is not an agent of Zenon but a state official. One of his duties is to appoint and to pay the guards of the vineyards (P.Z. 51) for which purpose a special tax was collected (the *φυλακτικὸν ἀμπελώνων*). He has also to do with the collection of taxes paid by the owners of vineyards. The same P.Z. 52 decides the question of the existence of a special land tax paid by the owners of vineyards (*ἐπαρούριον*). The usual rate was 3 drachmae for one arura

### CHAPTER IX

P. 109. Interesting data on *swine breeding* are furnished by P.Z. 49, year 36. A large herd of 400 pigs was rented to a swine breeder *Petos* for the payment of 211 little pigs a year. This man fled with the herd leaving only seven pigs and a certain number of little pigs. An order is given to arrest his sureties or to exact the money from them. It is worthy of note that the swine breeders like the beekeepers and the breeders of geese were mostly natives. Swine breeding seems to be very ancient in Egypt and pigs were used not only for providing meat but for agricultural purposes also, e.g. for treading corn on the threshing floors and for treading in the grain when the fields had been sown, see Edgar P.S. 49, Intro., cf. O. Keller, *Die antike Thierwelt*, p. 394.

P. 113. P.Z. 53, year 39 deals with *goats*. I have mentioned in the text some documents which testify to a large part played in this field by Arabs. These Arabs seem to have dwelt in Egypt for a long time as three of them have Greek names: *Demetrius* the tenman of the tribe (P.S.I. 386; 538, l. 1; P. Lond. Inv. 2084), *Limnaeus* (P. Lond. Inv. 2084) and *Hermias* (P. Lond. Inv. 2084; P.S.I. 380); two have Egyptian names; *Petechon*

(P.S.I. 538, cf. 571) and *Peteminis* (P.S.I. 368; 519; 596; P. Lond. Inv. 2312). Three of them, Demetrius, Limnaeus and Hermias appear again in P.Z. 53. Jason, the well-known superintendent and assistant of Zenon rents to Demetrius and Limnaeus a herd of 144 she-goats. They agree to pay yearly for the use of this herd 216 young goats. Hermias and a son of Demetrius *Apollonius* act as sureties. The conditions are the same as in the domain of swine breeding. After the death of Apollonius these Arabs were still in Philadelphia renting herds from Zenon, see P. Lond. Inv. 2084, year 4 of Euergetes (the writer of this letter *Pataikion* is a well-known agent of Zenon P.S.I. 363: 404; 572; 620; 629; 641) and P.Z. 60, year 5. The high rent paid by the goatherders as compared with the relatively low rent paid by the swine breeders is explained probably by the fact that the goatherders had less expense for feeding their animals. Unfortunately the part of P.Z. 53 which dealt probably with the taxes and the payments for the pasture land is not preserved. Cf. the similar contracts enumerated in P. Meyer, *Juristische Papyri*, no. 4a.

P. 114. The reference in P. Lond. Inv. 2308 (above p. 176) to sheep clothed in skins (*πρόβατα ὑποδίφθερα*, *oves pellitae*) which belonged to Telestes is another instance of the progressive character of the husbandry of the third century B.C. The same kind of sheep are also mentioned in P. Petrie III, 109. It is an account of the payments of different taxes by some holders of military plots. This kind of sheep was certainly imported to Egypt from Asia Minor or Greece by the cleruchi. We may suppose that the custom originated in Asia Minor, in the Lydian kingdom and the Ionian colonies (Strabo, XII, 546, implies that the custom was widely spread in Asia Minor), spread thence to Greece (Attica and Megara, see Varro, *r.r.*, II, 2 and Diog. L., VI, 41) and to Italy, especially to Tarentum (Varro, *r.r.*, II, 2; Columella, VII, 20 Hor., *Carm.*, II, 6, 10; Strabo, IV, p. 196). It is worthy of note that one of the chief importers of such novelties into Egypt was Telestes. He owned the skin clothed sheep; his manager used camels in his husbandry; note also the love of Philinus and Zenon for rare fowl.

P. 115. As regards the use of *slaves* in different branches of *industry* in Ptolemaic Egypt new evidence is furnished by the big document P.Z. 65, year 4 of Euergetes. The man who owes

money to Zenon was in the service of Apollonius and employed girl slaves in his business. Unfortunately we do not know what was his trade. Edgar may be right in supposing that he ran a bakery.

P. 117. An important branch of trade in Philadelphia was the fabrication of *pottery*. Philadelphia as an important centre of wine production needed large quantities of jars. P.Z. 61, year 5-6 of Euergetes shows that this branch of industry was managed in the same way as the others of which I spoke in the text of my article. The right of making jars was a concession (ὥνή) and was rented to a contractor who paid for it in kind, furnishing the estate with the jars needed for the keeping of wine. After the death of Philadelphus the epistates played in this domain the part which was played before by Zenon. They are responsible in the last instance before the State for the arrears of the contractor. We know several of the potters who worked in Philadelphia before the death of Apollonius. The most prominent were *Paesis* and *Lysimachus* (P.S.I. 441 and P. Lond. Inv. 2310) and their associates. They have some hired labourers (μισθωτοί) in their service. Special workmen in lead were engaged in repairing the jars (P. Lond. Inv. 2325).

## APPENDIX I

P.Z. 52, year 38 brings supplementary evidence on *Hermolaus*. In this papyrus he appears again as the oecome of the Memphite nome. I see no reason to suppose with Edgar, P.Z. V, p. 27, that he was the oecome of the Aphroditopolite and managed at the same time some districts of the Memphite. I believe that he was the oecome of the Aphroditopolite for a short period only. *Ammonius* who was mentioned in P.S.I. 524 and 510 appears again in P.Z. 63 and 64. He was the oecome of one part of the Herakleopolite nome. The constant mention of the oecomones of the neighboring nomes in the correspondence of Zenon confirms my view of the δωρεά of Apollonius as consisting of lands which belonged to different nomes but formed one economic unit under the management of Zenon. Under Euergetes, in his first years, the oecome of the Arsinoite was *Hermaphilus* (P. Petrie III, 43 (2), col. II, l. 8; col. III, l. 16; col. V, l. 8; verso col. II, l. 7; col. III, 20; P.S.I.

386, year 2; 399; 417; 598; 639; P.Z. 62, year 6; P. Lond. Inv. 2309, verso, l. 9). P.S.I. 417 shows that he was oecome of the Arsinoite even in the last years of Philadelphus.

## APPENDIX II

A series of new documents published by Edgar belong to the first eight years of Euergetes. It fully confirms my view of the position occupied by Zenon in Philadelphia during this period of his life. During his stay in Philadelphia when he was the manager of the estate of Apollonius, and earlier when he lived in Alexandria and abroad, Zenon has not confined his activity to the affairs of Apollonius only. He steadily built up his own fortune. One of his favorite occupations was a kind of private banking. He lent money to everybody, especially to his subordinates. P. Z. 65 tells the long and complicated story of one of these operations of Zenon (cf. P.Z. 58). Zenon has lent 900 drachmae to a certain Philon, who was employed by Apollonius, at the rate of 2 per cent a month which makes 25 per cent a year. In the year 4 of Euergetes the money was not yet paid. The payment of interest stopped with the year 29. Before this time Zenon regularly intercepted the salary of Philon taking it as payment of the interest and of a part of the capital. It was easy for him to do so as he was the oecome of Apollonius at this period. When he was transferred to Philadelphia the payments naturally stopped. We have seen that the same operations were carried out by him in Philadelphia also. Moreover we have had every reason to suppose that Zenon during his stay in Philadelphia acted for several nomes as a general contractor of the duties paid by the owners of vineyards. No wonder that he became a rich man. I have no doubt that even before the death of Apollonius he owned in the neighborhood of Philadelphia large vineyards and herds. Along with him the whole "Carian nest" of his friends and relatives, all employed either by the State or by Apollonius, acted in the same way. But the most brilliant time of Zenon began after the death of Apollonius. I am inclined to suppose that he profited by the disgrace and execution of his master and emerged out of this catastrophe as a man of large means and of great influence. I have already pointed out that under Euergetes he

stood in the centre of business interests in which many other persons, the whole "Carian nest," were involved. Besides Jason and the others, whom I have mentioned in the text, to the same company belonged *Kleon* and *Sostratus*, the sons of Jason, and probably the three brothers *Damis*, *Etearchus* and another *Sostratus*, of whom the first two were nomarchs. It is not easy to separate the affairs of these relatives of Zenon from the affairs of Zenon himself. They all form one trading company. The interests of this company were many and various. I enumerated a part of them in the text. The Cairo papyri furnish us with a large amount of new evidence on the same subject. P.Z. 62, year 6 of *Euergetes* shows that Zenon still was the general contractor of the vineyard duties for several nomes. His agents or subcontractors were *Demetrius* and *Hippocrates*, cf. P.S.I. 439 and 528. On the verso of P.Z. 61, year 5-6 are mentioned two large vineyards of 60 and 30 arurae owned by Zenon, cf. P.S.I. 393, l. 20 f. P.Z. 60, year 5 gives another instance of his large herds; he rents his herds to the Arabs, whom I have mentioned repeatedly and provides them with pastures; he may have rented large pasture lands from the State. On the verso of the same papyrus he is interested in a herd of pigs which was rented by his brother *Epharmostus* to his old associates of the time of *Apollonius*, *Pyrrus* and *Pytheas*. One thousand beehives were owned by *Sostratus* and *Kleon*, the sons of Jason, one of Zenon's associates (P.Z. 63, year 7). No doubt Zenon was interested in their business. Another associate of Zenon in this affair was *Xenophon*. The same two men, *Sostratus* and *Kleon*, were large dealers in hay. They probably furnished the cavalry of *Euergetes* with hay during his expeditions to Syria. They speak of 150,000 bundles of hay owned by them and of a ship rented by them for 1200 drachmae for the transportation of hay (P.Z. 63). By the way it is interesting to compare this operation of *Sostratus* and *Kleon* with the anecdote told by *Machon*, the contemporary of *Philadelphus* and *Euergetes*, one of the most famous authors of the new comedy, whose residence was Alexandria (*Christ-Schmid, Gesch. der gr. Lit.*, II, p. 36). The anecdote is preserved by *Athen.*, XIII, 583. It deals with a hetaera, *Hippe* ("Ἰππη) by name, who was kept by *Theodotus* the superintendent of hay (τὸν ἐπὶ χόρτου τότε γενόμενον). This *Theodotus* may have bought



the hay from Sostratus and Kleon. He profited heavily and Ptolemy (Euergetes?) knew it, but probably did not mind it. Was he the same Theodotus, the Aetolian who later betrayed Philopator in Syria? His rivalry with Sosibius might have begun under Euergetes, under whom Sosibius occupied an influential post. Finally Zenon dealt largely with baths, renting and probably building them (P.Z. 64, year 8). On the relations of Zenon to the horsemen of Philadelphia new evidence is furnished by a papyrus of Cairo (unpublished) a copy of which was kindly sent to me by Edgar. It is a letter of Ptolemaeus (probably the strategus, cf. P.S.I. 542) to Zenon: Πτολεμαῖος Ζήνωνι χαίρειν. γέγραφέ σοι ἵνα εἰδῇς τὴν γενομένην ἐπὶ Φανίου οἰκονομίαν τοῖς ἵππεύσι· ἀφῆκεν γὰρ αὐτοῖς πᾶσι τοῦτο τὸ ἔτος τὰ γενήματα, εἰς δὲ τὰ ἔπειτα ἐπὶ τοῦ ἀρι[θ]μοῦ τοὺς ἵππους ἀναστῆσαι· σὺ οὖν ἀπό[στειλον] ὃς παραλήψεται τό[τε] | σ[ή]σαμον καὶ τὸ λοιπὸν τ[ῆς] κριθ[ῆς] τὸ ἐν τοῖς ἵππεύσι, i. e. "Ptolemaeus to Zenon greetings. I have written to you for information on the arrangements taken by Phantias as regards the horsemen (or 'the orders issued by Phantias'). He released to them all their revenues in kind for this year, but for the next year they must have their horses in full numbers. Send therefore somebody to collect the sesame and the rest of the barley due by the horsemen." Phantias is the same secretary of the horsemen whom I mentioned in the note 91. The new document shows that I was right in assuming in the Appendix V that the burden of ἵπποτροφία (maintenance of the horses) lay with the horsemen and that they were obliged to keep the horses in full numbers according to the requirements of the military administration. Which was the part played by Zenon in these matters? It seems that he was an intermediary between the horsemen of Philadelphia and the military administration, an agent of the government and a representative (a kind of business manager) of the horsemen at the same time. Here again he seems to have played the part of a tax farmer and was responsible for the payments due by the horsemen to the State. As the Cairo document bears no date we cannot decide whether Zenon played this rôle of the representative of the horsemen under Apollonius also and retained it later or whether he became responsible for the horsemen after the death of Apollonius.



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THE DISTICHS OF CATO  
A FAMOUS MEDIEVAL TEXTBOOK

TRANSLATED FROM THE LATIN, WITH INTRODUCTORY SKETCH

BY

WAYLAND JOHNSON CHASE  
ASSOCIATE PROFESSOR OF HISTORY AND EDUCATION

MADISON

1922



## INTRODUCTION

"He knew no Catoun, for his wit was rude," said Geoffrey Chaucer in his *Canterbury Tales* about one of his characters, the carpenter.<sup>1</sup> This was in about 1400, probably more than eleven hundred years after Cato, or Catoun as the Norman-French called him, had brought together his collection of moral couplets for the instruction of the young. So nearly universal was their vogue at this time that Chaucer could be sure that all would understand that the ignorant carpenter had not gone in his schooling even so far as the first reader. Almost four hundred years after Chaucer this collection continued to be of great educational importance on two and perhaps three continents, and so, having had more than fifteen centuries of continuous service in education, is thoroughly deserving of consideration.

Who this Cato was and when and where he lived have been the subject of conjecture and enquiry for very many centuries. Distichs of this collection were already known around 200 A.D., the first trace of them being in two epitaphs which contained a couplet or two. Commodian, a poet of the third century, used them and imitated their style.<sup>2</sup> The earliest appearance of the collection under the name Cato was in a letter of Vindicianus, proconsul in Africa to the Emperor Valentinian who died in 375 A.D.<sup>3</sup> By one group of investigators it has been urged that because Vindicianus declared that he found the book widely circulated in Africa and because it resembles in language peculiarities and in versification the other poetic works of Roman Africa these distichs were the work of an African rhetorician.<sup>4</sup> Others have preferred to trust the

<sup>1</sup> *The Miller's Tale*.

<sup>2</sup> Martin von Schanz, "Geschichte der Römischen Literatur," p. 34, in *Handbuch der Klassischen Altertums-wissenschaft*, edited by Iwan von Müller (Munich, 1905).

<sup>3</sup> *Ibid.*, loc. cit.; Fr. Zarncke, *Der Deutsche Cato* (Leipzig, 1852) p. 6; Paul Monceaux, *Les Africains* (Paris, 1894), p. 369.

<sup>4</sup> Monceaux, p. 369.

testimony of a tenth century manuscript of Paris which declares that the author was of Cordova.<sup>5</sup> These are but two of many strongly urged theories of origin. John of Salisbury, the most learned man in literary matters in the twelfth century, wrote in his *Polycraticus*, "Thus says Cato or someone else, for the author is unknown."<sup>6</sup> Despite much search by many students since the time of that learned Englishman his conclusion remains the answer of scholarship. Neither of the names Cato or Dionysius, which came to be associated with it in the title, belonged to the author of our collection, though some of the distichs that comprise it may be ascribable to Cato the Censor.<sup>7</sup> It is not that, however, that gave the collection its name, but the fact that the old Cato was associated with wisdom and wisdom literature in the form of practical rules of life which he had written for his son, and of a poem on manners.<sup>8</sup> So in an uncritical age his name came to be attached to this collection of widely accepted aphorisms, some of which had a Roman origin and some a Greek.<sup>9</sup> Good authority supports the opinion that between 117 and 324 this collection of apothegms was made by an unknown writer living in the western part of the Roman Empire, and that by the close of the fifth century the name of Cato had come to be attached to it.<sup>10</sup> The prefix Dionysius was not added until the fifteenth century, when the learned Scaliger mistakenly used it in one or both of the editions he published.<sup>11</sup> The collection in these many centuries of service has borne a great variety of names such as *Dicta Catonis*, *Dicta M. Catonis ad filium suum*, *Libri Catonis Philosophi*, *Dionysii*

<sup>5</sup> Frederic Plessis, *La Poésie Latine* (Paris, 1909), p. 664; Max O. Goldberg, *Die Catonischen Distichen während des Mittelalters in der Englischen und Französischen Literatur* (Leipzig, 1883), p. 8.

<sup>6</sup> John of Salisbury, *Polycraticus*, edited by C. C. I. Webb, 2 vols. (Oxford, 1909), II, 125.

<sup>7</sup> W. S. Teuffel, *Geschichte der Römischen Literatur*, 3 vols. (Leipzig-Berlin, 1913) III, 204.

<sup>8</sup> Schanz, p. 34.

<sup>9</sup> Eric Stechert, *De Catonis quae dicuntur distichis* (Greifswald, 1912).

<sup>10</sup> Schanz, p. 34; Teuffel, III, v, assigns it to Diocletian's reign, 284-305.

<sup>11</sup> Teuffel, III, 204; Erich Bischoff, *Prolegomena zu Dionysius Cato* (Erlangen, 1890), p. 3 ff.



*Catonis Disticha de Moribus ad Filium, Disticha Moralia D. Catonis, Parvus Cato et Magnus Cato, The School Cato, etc.*<sup>12</sup>

It was these last centuries of the Roman Empire which supplied curriculum, textbooks, and to some extent method to the schools of the middle ages. The Roman grammar school, *ludus literarius*, was the most important institutional heritage which the medieval world received in the realm of education. With the breakdown of imperial government and the confusion and disorder incident to the passing of the power over the western European world into the hands of the invading Germans, the Christian church stood forth as the chief civilizing agency of the times, and it was the school maintained by the bishop in connection with the cathedral church, and to a less extent the school of the monastery, that carried on the work of the Roman grammar school. Latin remained the language of the schools, and the object of all medieval grammar-school Latin-teaching was not, as nowadays when Latin is taught, merely to read and write Latin, but to speak it, to use it as a living language.

In the elementary or song school of the cathedral the young boy was taught and trained so as to be able to sing in the cathedral choir and in the course of this preparation he acquired some proficiency in reading and writing Latin, with a little knowledge of its grammar, the psalter being commonly the first book mastered. Equipped with this power, he passed on up to the grammar school where now his studies were to be those of the trivium, comprising grammar, rhetoric and dialectics or logic, and the quadrivium, consisting of arithmetic, geometry, music and astronomy. For the earlier stages of this curriculum the textbooks used were a grammar and a first reader, and until long after our modern times had been ushered in by the Renaissance and the Reformation, *Cato's Moral Distichs* was this first Latin reader. Throughout the early centuries of the Middle Ages schoolbooks were scarce and possession of them was restricted to the masters. By them the subject matter was dictated to their pupils who were required to commit

<sup>12</sup> Schanz, p. 35.

to memory both grammar and reader. Even after textbooks had come to be so plentiful that the schoolboys could own them, they were still required to commit to memory much or most of what was studied in the schools. Small wonder is it, then, that these aphorisms of Cato thus learned by heart came to have wide currency, and that the pungency and keenness of the wisdom embodied in this first Latin reader secured for the distichs abiding popularity. Indeed they were more than merely popular, being held in high esteem by scholars and churchmen and sharing with the writings of the Church Fathers the authority this age accorded to them.

The service this little book performed was both as a first Latin reader and as a textbook in morals, and its importance in the history of education is great on both these counts. This importance is revealed to us by the record of its use in the schools and by the reverence for it displayed in the literature of the Middle Ages and the early modern times. From an examination of its career as a textbook we find that the seventh century monastery schools of Ireland made use of it and that it is in the eighth, ninth, tenth and eleventh century school-book lists of both the British Isles and the Continent.<sup>13</sup> Especially in the Carolingian period was wide use made of it in the schools of western Europe where it seems to have shared the repute as a classical work that Virgil possessed.<sup>14</sup> Walter Map, noted theologian and author in the twelfth century, called this Cato the wisest of men since Solomon,<sup>15</sup> and Map's contemporary, John of Salisbury, declared that it was from the *Distichs* that little children of his time were regularly instructed in the precepts of virtue.<sup>16</sup> Abelard, too, accorded it praise.<sup>17</sup> Its use continued throughout the thirteenth and fourteenth centuries, and in the fifteenth century the first printing presses

<sup>13</sup> Goldberg, p. 8; Schanz, p. 37.

<sup>14</sup> M. Manitius, "Geschichte der Lateinischen Literatur des Mittelalters," in *Handbuch der Klassischen Altertums-wissenschaft*, edited by Iwan von Müller (Munich, 1911), Vol. IX, II, I, p. 574.

<sup>15</sup> Walter Map, "De Nugis Curialium," *Distinctio V. Cap. V.* in *Anecdota Oxoniensia*, Medieval and Modern Series, Part XIV (Oxford, 1914).

<sup>16</sup> Polycraticus, II, 125.

<sup>17</sup> Goldberg, p. 8.

set up by Caxton in England brought out versions of it.<sup>18</sup> That famous publisher who himself translated it from a French edition into English gave as his reason for doing this, "It is in my judgment the best book to be taught to young children in school, and also to the people of every age it is full convenient if it be well understood." The favor in which it was held by fifteenth century printers is further shown by the fact that the fourteen copies of fifteenth century editions of the *Distichs* now owned in the United States represent publishers of the five different countries,—England, Germany, Holland, France and Switzerland.<sup>19</sup>

It was used in the famous schools of the Hieronymians<sup>20</sup> and in those founded under the supervision of Melancthon, the "preceptor of Germany."<sup>21</sup> That most successful sixteenth century schoolmaster, Johann Sturm, used it in his great school at Strassburg.<sup>22</sup> Maturinus Corderius, Calvin's famous teacher, brought out an edition in 1561. This was so extensively and persistently used that it is said to have gone through one hundred printings.<sup>23</sup> Vives quotes *Cato* in one or more of his schoolbooks,<sup>24</sup> and both the great Erasmus and the learned Scaliger brought out editions of the verses, the latter lamenting the fact that they were not studied as much as they had been.<sup>25</sup> Nevertheless, it was so popular in Germany in the fifteenth and sixteenth centuries that a parody in the vernacular was read enthusiastically. In France a parody had been written in the fifteenth century, and in 1605 an English parody was

<sup>18</sup> Thos. R. Lounsbury, *Studies in Chaucer*, 2 vols. (New York, 1892), II, 359.

<sup>19</sup> Bibliographical Society of America, *Census of fifteenth century books owned in America* (New York, 1911), p. 65.

<sup>20</sup> *Memoirs of Eminent Teachers and Educators in Germany*, edited by Henry Barnard (Hartford, 1878), p. 200.

<sup>21</sup> *Ibid.*, p. 294.

<sup>22</sup> *Ibid.*, p. 200.

<sup>23</sup> Goldberg, p. 63.

<sup>24</sup> Juan Luis Vives, *School Dialogues*, translated by Foster Watson, (London, 1908), p. 137.

<sup>25</sup> Jacob Bernays, *Joseph Justus Scaliger* (Berlin, 1855), p. 286.

printed, entitled the *School of Slovenrie or Cato turn'd wrong side outwarde*.

Its use in the great English public schools was prescribed by various statutes of the sixteenth and seventeenth centuries so that it did service in Eton, Westminster, Durham, Sandwich, St. Bees, Bangor and Harrow.<sup>26</sup> Cardinal Wolsey directed that it be used in Ipswich School which he founded in 1528.<sup>27</sup> Mulcaster, 1531-1611, for twenty-five years head master of the famous Merchant Taylor's School and later master of St. Paul's, objected to the distichs on the ground that the ethical teaching they contained was too old for boys.<sup>28</sup> But in this judgment as well as in many others he was ahead of his age educationally, and in the two generations that succeeded his the leading school masters, Brinsley and Hoole, both used it in their schools and brought out editions of it.<sup>29</sup> Both of these masters wrote influential books on the art of teaching and the profession of school-keeping.<sup>30</sup> These quaint manuals give respectful mention of *Cato's Distichs* and show interestingly how this Latin text was employed in their classrooms in the times of John Milton and Oliver Cromwell. Construing line by line, parsing each word in elaborate, formal fashion and answering in Latin questions about it in the same language, were some features of the prevailing method. There was also much writing of themes upon the problems of behavior of which the distichs treat.

That the popularity which this textbook enjoyed in the seventeenth century endured in England even to the end of the eighteenth is shown by the title page of an edition now owned by the Library of Columbia University. This reveals so interestingly that century's educational emphasis and practice,

<sup>26</sup> Foster Watson, *The English Grammar Schools to 1660* (Cambridge, 1908), p. 121.

<sup>27</sup> A. F. Leach, *The Schools of Medieval England* (New York, 1915), p. 301.

<sup>28</sup> Watson, p. 122. Yet Mulcaster brought out a *Christianized Cato*. (*Cato Christianus*), Watson, p. 28.

<sup>29</sup> *Ibid.*, p. 121.

<sup>30</sup> John Brinsley, *Ludus Literarius* (1612); Charles Hoole, *New Discovery of the Old Art of Teaching School* (1660).

together with the author's optimism, that it is given here in full as follows:

Cato's Distichs  
De Moribus  
with a  
Numerical Clavis  
and Construing and Parsing  
Index

The First shewing by Figures, answering to each Word in every Line, in what Order the Words ought to be looked in the *Index*, to be Construed into good Sense.

The Second containing all the Words in them digested into an Alphabetical Order, together with the *English*, and a Grammatical Praxis on each Word referring to the Rules in Lilly's Grammar.

To which is added, An *English* Translation of Erasmus's Commentaries on each Distich.

For the Use of Schools.

In a Method so Easy, that Learners of the meanest Attainment in the *Latin* Tongue may be enabled to Construe and Parse their Lessons with Ease to themselves, and without Trouble to their Teacher.

The Sixth Edition, corrected and improved

By N. Bailey.

London:

Printed for G. Keith, S. Crowder, B. Law, and  
C. and R. Ware.

MDCCLXXI

It was not only in England that the schoolmasters continued to prize *Cato*, for it had persistent vogue throughout Europe. The Moravian schoolmaster, Comenius, made a version of it<sup>31</sup> and by a Swiss hagiographer of the seventeenth century Dionysius Cato is included in a list of the saints.<sup>32</sup> The schools of Germany continued its use far into the eighteenth century. An edition of 1766 printed in that country is extant: it contains the Latin distichs and below, at the bottom of the pages, trans-

<sup>31</sup> Schanz, p. 39.

<sup>32</sup> *Ibid.*, p. 38.

lations into German iambs, trochees, and dactyls for each couplet.<sup>33</sup> Editions were published in the Danish, the Swedish and the Byzantine countries.<sup>34</sup> When in the seventeenth century grammar schools were established in England's American colonies this Latin reader was used in them and continued to be in service well into the eighteenth century.<sup>35</sup> Such, then, has been the remarkable record of the *Disticha Catonis* as a textbook, covering more than fifteen centuries and the whole Christian world.

The influence it has exerted upon literature is so closely related to that on education that it is difficult to separate one from the other, especially because in the Middle Ages authors were so commonly teachers, and literature was so often didactic in purpose. Consequently, some of this literary influence has already been revealed in the foregoing references; the following, however, will serve to greatly increase the impression of it. The earliest medieval poet of France, the sixth century Venantius Fortunatus, refers in his writings to the *Distichs*,<sup>36</sup> and from the same source the Irish monk Columban of about the same time appropriated much of the poem, *Precepta Vivendi*, if, as is commonly held,<sup>37</sup> he were the author. The ninth century Alcuin used them, and many other writers of the time and realm of Charlemagne and Louis the Pious, namely, the poet Jacobus of the royal court, Hincmar of Rheims, Radbert of Corbie, Micon of St. Riquier, Candidus of Fulda, and Remigius of Auxerre either cite or quote the *Distichs*.<sup>38</sup> So in the same period do Paulus Albanus and Eulogius, both of Cordova.<sup>39</sup>

<sup>33</sup> D. C. Munro, *The Middle Ages* (New York, 1921), p. 83.

<sup>34</sup> Schanz, p. 38.

<sup>35</sup> *Cyclopaedia of Education* edited by Paul Monroe. 5 vols. (New York, 1912), II, 119; Worthington C. Ford, *The Boston Book Market 1679-1700*, (Boston, 1917) pp. 123, 174, 179.

<sup>36</sup> Manitius, p. 177.

<sup>37</sup> *Ibid.*, p. 185; Schanz, p. 37.

<sup>38</sup> Manitius, pp. 248, 346, 406, 471, 511, 662; Ernest Dümmler, "Poetarum Latinorum Medii Aevi," in *Monumenta Germaniae Historica*, (Berlin, 1881) I, 165.

<sup>39</sup> Manitius, pp. 423, 428.



In the later part of the ninth century Christian of Stablo in Aquitaine and Gerald of St. Gall reveal their literary obligation to *Cato*, as does Auxilius of Naples in the next century.<sup>40</sup> Alfred the Great of England drew upon them for his "Proverbs."<sup>41</sup> Twelfth century writers freely quote them.—John of Salisbury in his *Polycraticus* and Walter Map in his *De Nugis Curialium*. The fourteenth century *Piers Plowman* contains many of these apothegms with expression of acknowledgment of their source.<sup>42</sup> Bits of wisdom from "Catoun which that was so wys a man" are embodied in several of Chaucer's tales.<sup>43</sup> Marlowe in his *Jew of Malta* makes Barabas soliloquize in terms of one of Cato's sayings. Illustrations of these sorts could be multiplied to heap high the testimony to the service of this medieval Cato to English literature. The earliest translation of *Cato* into the German of which we have knowledge is that of Notker III into the Old High German of the eleventh century.<sup>44</sup> This has not come down to us. But preserved for us in many extant manuscripts of varying text is a Middle High German translation of unknown authorship, dating probably from the thirteenth century.<sup>45</sup> From that time on translations abounded throughout Germany, and nowhere was *Cato* more widely and adoringly read than there. The earliest evidence of its influence on German literature is that apparent in the poems of Freidank in the thirteenth century.<sup>46</sup> For many centuries thereafter, various German writers use and quote Cato. This is conspicuously true of Opitz in the seventeenth century.<sup>47</sup> Of similar popularity and influence in both medieval and modern Spain

<sup>40</sup> Manitius, pp. 433, 613.

<sup>41</sup> Goldberg, p. 11.

<sup>42</sup> Wm. Langland, *Piers Plowman*, edited by Arthur Burrell (London 1912), pp. 123, 130, 185.

<sup>43</sup> *The Merchant's Tale; The Nun's Priest's Tale; The Canon's Yeoman's Tale*.

<sup>44</sup> Zarncke, p. 188.

<sup>45</sup> *Ibid.*, loc. cit.

<sup>46</sup> A. Koberstein, *Grundriss der Geschichte der Deutschen Nationalliteratur*, 5 vols. (Leipzig, 1872), II, 119.

<sup>47</sup> A. Salzer, *Illustrierte Geschichte der Deutschen Literatur*, 3 vols. (Munich, 1912).

there is abundant evidence in the numerous Latin manuscripts of it now in Spanish libraries, in the many allusions to it in early Spanish literature before 1500, in the many Spanish translations of it from the thirteenth century through the sixteenth and in the seventeenth century reference to it in the prologue of *Don Quijote*.<sup>48</sup> All over Europe there exist today very many manuscripts in the Latin and translations of it into the dialects and vernaculars of feudal France, of Holland, the Engadine, Italy, Bohemia, Poland, Hungary, Roumania, Denmark, Sweden, Iceland, Ireland and Wales.<sup>49</sup> There are Greek versions and both Anglo-Saxon and Anglo-Norman.<sup>50</sup> The earliest Anglo-Saxon seems to have been that of Aethelwold in the tenth century.<sup>51</sup> Caxton brought out four English editions, the earliest in 1477, and his successor Wynkyn de Worde one or two more.<sup>52</sup> Yet though the next three centuries produced many more, it is now practically impossible to purchase an English translation of the *Distichs*. In 1735 Benjamin Franklin published one in Philadelphia, but this has come to be so rare that in 1911 a copy of it sold at auction for \$1300.

An important aspect of the service rendered by these little verses is their influence on the proverbial sayings of all European people, for these have been greatly enriched from the Catonian source. The numerous poetry of parental instruction and ethical guidance from Columban's time on down through that of Alfred the Great and much later are largely outgrowths of the *Distichs*. This influence can be discerned in such as these, *How the Wyse Man Taught his Sons*, *Foeder Larcoidas*, *Des*

<sup>48</sup> Karl Pietsch, "Two Old Spanish Versions of the *Disticha Catonis*," in *Decennial Publications of the University of Chicago*, First Series, (1903), VII, 193; Teuffel, p. 205.

<sup>49</sup> Teuffel, p. 205.

<sup>50</sup> *Ibid.*, loc. cit.; Goldberg, p. 7 ff.

<sup>51</sup> Goldberg, p. 8.

<sup>52</sup> *Transactions of the Bibliographical Society*, (London, 1904), VII, 176; Watson, p. 121. A reprint of Caxton's first publication of Cato has been made recently: *Parvus Cato Magnus Cato*, Benet Burgh, translator. (Cambridge, 1906).

*Vaters Lehren*.<sup>53</sup> Franklin's *Poor Richard's Almanac*, too, gives internal evidence of having received influence from that source.

This conquering career of the *Distichs of Cato* was not due to superlative greatness of theme or content but primarily to their simplicity and the homeliness and practicalness of their wisdom. Though the period of their origin is close to that in which Christianity was accepted by the Roman state, their author is judged to have been an adherent of the old Roman gods. But while there is nothing certainly suggestive of Christianity in these verses, their pagan flavor was so slight as to constitute no disqualification, nor do they reveal any special philosophic traces. What the author seeks most to inculcate is prudence, caution, self-possession, shrewd adaptation to circumstances, courage, moderation and self-control.

The distichs that have come down to us are undoubtedly no more than the mutilated fragments of the original collection. The more diligently it was used in the Middle Ages the more distortion, confusion and mutilation occurred and changed its original shape. Of the many Latin versions now accessible the best is that of Aemilius Baehrens in Volume III of *Poetae Latini Minores* (Leipsic, 1881) and that is the basis of this translation. Where it has been practicable, use has been made of two English translations very long out of print. One is that of James Wright printed in London in 1663; the other that already referred to, "printed and sold by B. Franklin, 1735," the translator's name not being given.

The distichs here presented in translation comprise the common or usual collection made up of four books, of forty, thirty-one, twenty-four and forty-nine two line verses. Books II, III and IV have each a special preface in verse; this seems to have been lost as to I. The collection as a whole is preceded by a group of fifty-six very short proverbs in prose, most of them of but two words each in the Latin, and before these is a brief introduction, also in prose. It seems very certain that both this introduction and the prose proverbs are of different and later authorship than the distichs themselves.<sup>54</sup>

<sup>53</sup> Schanz, p. 37.

<sup>54</sup> Schanz, p. 34.

## COLLECTIO DISTICHORUM VULGARIS

[Cum animaduverterem, quam plurimos grauiter in uia morum errare, succurrendum opinioni eorum et consulendum famae existimaui, maxime ut gloriose uiuerent et honorem contingerent. nunc te, fili karissime, docebo, quo pacto morem animi tui componas. igitur praecepta mea ita legito, ut intellegas. legere enim et non intellegere neclegere est.

Deo supplica.

Parentes ama.

Cognatos cole.

Datum serua.

Foro parce.

Cum bonis ambula.

Antequam uoceris, ne accesseris.

Mundus esto.

Saluta libenter.

Maiori concede.

Magistratum metue.

Verecundiam serua.

Rem tuam custodi.

Diligentiam adhibe.

Familiam cura.

Mutuum da.

Cui des, uideto.

Conuiuare raro.

Quod satis est, dormi.

Coniugem ama.

Iusiurandum serua.

Uino tempera.

Pugna pro patria.

Nihil temere credideris.

## THE COMMON COLLECTION OF DISTICHS

[When I noticed how very many go seriously wrong in their manner of living I concluded that I must apply a corrective to their belief and take counsel of the experience of mankind in order that they may live most gloriously and attain honor. Now I will teach thee, dearest son, in what way thou mayest fashion a rule for thy life. Therefore, so read my precepts that thou mayest understand them, for to read and not to understand is equivalent to not reading.]

Pray to God.  
Love thy parents.  
Cherish those of kin to thee.  
Guard that entrusted to thee.  
Shun the market place.  
Walk with the upright.  
Attack not until you have challenged.  
Be neat.  
Salute freely.  
Yield to him who is older than thou.  
Respect the magistrate.  
Preserve thy sense of shame.  
Guard well thine own interests.  
Practice diligence.  
Care for thy family.  
Return like for like.  
Consider well to whom to make presents.  
Indulge rarely in banquets.  
Sleep enough.

Love thy wife.  
Keep thy word.  
Be moderate with wine.  
Fight for thy country.  
Be not easily imposed upon.

Meretricem fuge.  
Libros lege.  
Quae legeris, memento.  
Liberos erudi.  
Blandus esto.

Irascere ob rem grauem.  
Neminem riseris.  
In iudicio adesto.  
Ad praetorium stato.  
Consultus esto.

Virtute utere.  
Trocho lude.  
Aleam fuge.  
Litteras disce.  
Bono benefacito.  
Tute consule.

Maledicus ne esto.  
Existimationem retine.  
Aequum iudica.  
Nihil mentire.

Iracundiam rege.  
Parentem patientia uince.  
Minorem ne contempseris.  
Nihil arbitrio uirium feceris.  
Patere legem, quam ipse tuleris.  
Benefici accepti esto memor.  
Pauca in conuiuio loquere.  
Miserum noli inridere.  
Minime iudica.  
Alienum noli concupiscere.  
Illud adgredere, quod iustum est.  
Libenter amorem ferto.  
Liberalibus stude.]



Shun the harlot.  
Read books.  
Remember what thou readest.  
See to the instruction of thy children.  
Be kind.

Be angry when the affair requires it.  
Ridicule no one.  
Attend the law court.  
Frequent the residence of the praetor.  
Be conversant with the law.

Practice virtue.  
Play with a hoop.  
Eschew the dice.  
Learn to read.  
Show favor to the good.  
Give sound counsel.

Be not abusive.  
Hold to thy opinion.  
Judge fairly.  
Never lie.

Keep thy temper.  
Overcome thy parent with patience.  
Despise not thy inferior.  
Do nothing under the pressure of force.  
Respect the law that thou thyself hast made.  
Be mindful of favor received.  
Say little at banquets.  
Deride not the unhappy.  
Never pass judgment.  
Covet not the possessions of another.  
Seek that which is right.  
Feel affection freely.  
Strive after noble things.]

## LIBER I

1. Si deus est animus, nobis ut carmina dicunt,  
Hic tibi praecipue sit pura mente colendus.
2. Plus uigila semper neu somno deditus esto;  
Nam diuturna quies uitiiis alimenta ministrat.
3. Uirtutem primam esse puto, conpescere linguam:  
Proximus ille deo est, qui scit ratione tacere.
4. Sperne repugnando tibi tu contrarius esse:  
Conueniet nulli, qui secum dissidet ipse.
5. Si uitam inspicias hominum, si denique mores,  
Cum culpant alios: nemo sine crimine uiuit.
6. Quae nocitura tenes, quamuis sint cara, relinque:  
Utilitas opibus praeponi tempore debet.
7. Clemens et constans, ut res expostulat, esto:  
Temporibus mores sapiens sine crimine mutat.
8. Nil temere uxori de seruis crede querenti:  
Semper enim mulier quem coniux diligit odit.
9. Cum moneas aliquem nec se uelit ille moneri,  
Si tibi sit carus, noli desistere coeptis.
10. Contra uerbosos noli contendere uerbis:  
Sermo datur cunctis, animi sapientia paucis.
11. Dilige sic alios, ut sis tibi carus amicus;  
Sic bonus esto bonis, ne te mala damna sequantur.

## BOOK I

1. If God a spirit is as poets sing,  
With mind kept pure make thou thy offering.
2. Be oft awake: from too much sleep abstain,  
For vice from sloth doth ever nurture gain.
3. Who rules his tongue doth highest praises reap:  
Godlike is he who silence well doth keep.
4. Ne'er with thyself perversely disagree;  
Who's out with self in peace with none will be.
5. If on men's lives and deeds thou look'st, thou'lt see  
That from those faults they blame, not one is free.
6. Shun that which harms, e'en tho thy love is caught;  
Before mere wealth should safety first be sought.
7. Be ever kind or stern to suit the time:  
The wise may change his practice without crime.
8. Heed not when of thy slave thy wife complains,  
For whom her husband loves, she aye disdains.
9. When thou giv'st counsel, cease not till the end,  
Though it unwelcome be, e'en to thy friend.
10. Try not with words the talker to outdo;  
On all is speech bestowed: good sense on few.
11. Love others so that thou'rt to self a friend;  
Prefer the good and thus dire harm forbend.

12. Rumores fuge neu studeas nouus auctor haberi;  
Nam nulli tacuisse nocet, nocet esse locutum.
13. Spem tibi polliciti certam promittere noli:  
Rara fides ideo est, quia multi multa locuntur.
14. Cum te aliquis laudat, iudex tuus esse memento;  
Plus aliis de te quam tu tibi credere noli.
15. Officium alterius multis narrare memento;  
At quaecumque aliis benefeceris ipse, sileto.
16. Multorum cum facta senex et dicta reprendis,  
Fac tibi succurrant, iuuenis quae feceris ipse.
17. Ne cures, si quis tacito sermone loquatur:  
Conscius ipse sibi de se putat omnia dici.
18. Cum fueris felix, quae sunt aduersa caueto:  
Non eodem cursu respondent ultima primis.
19. Cum dubia et fragilis nobis sit uita tributa,  
In morte alterius spem tu tibi ponere noli.
20. Exiguum munus cum dat tibi pauper amicus,  
Accipito laetus, plene et laudare memento.
21. Infantem nudum cum te natura crearit,  
Paupertatis onus patienter ferre memento.
22. Ne timeas illam, quae uitae est ultima finis:  
Qui mortem metuit, quod uiuit, perdit id ipsum.

12. Spread not vain talk lest thou be thought its spring;  
Silence ne'er harms but speech may trouble bring.
13. On others' promise do not base thine own;  
Talk doth abound: good faith is rarely shown.
14. When praised, thou of thyself the judge must be;  
Accept no praise not spoken truthfully.
15. Fail not another's kindness to proclaim;  
Thine own good deeds 't is better not to name.
16. Dost thou when old another's faults proclaim?  
Recall that young thou gavest cause for blame.
17. 'T is self-conceit the whisperer to mind,  
As if what's whispered were for thee designed.
18. When fortune smiles, beware lest some ill strike;  
End and beginning often are unlike.
19. Since with so frail a thread thy life is spun,  
Thou hope of gain from other's death shouldst shun.
20. Thy poor friend's present from his scanty store,  
Take gratefully as if the gift were more.
21. Since naked thou wast born, then patient be  
If doomed to bear the load of poverty.
22. Dread not the day that endeth all life's ills;  
For fear of death all joy in living kills.

23. Si tibi pro meritis nemo succurrit amicus,  
Incusare deos noli, sed te ipse coerce.
24. Ne tibi quid desit, quod quaesisti, utere parce;  
Utque, quod est, serues, semper tibi desse putato.
25. Quod dare non possis, uerbis promittere noli,  
Ne sis uentosus, dum uir bonus esse uideris.
26. Qui simulat uerbis nec corde est fidus amicus,  
Tu quoque fac simules: sic ars deluditur arte.
27. Noli homines blando nimium sermone probare:  
Fistula dulce canit, uolucrum dum decipit auceps.
28. Cum tibi sint nati nec opes, tunc artibus illos  
Instrue, quo possint inopem defendere uitam.
29. Quod uile est, carum, quod carum, uile putato:  
Sic tu nec cupidus nec auarus nosceris ulli.
30. Quae culpae soles, ea tu ne feceris ipse:  
Turpe est doctori, cum culpa redarguat ipsum.
31. Quod iustum est petito uel quod uideatur honestum;  
Nam stultum petere est quod possit iure negari.
32. Ignotum notis noli praeponere amicis:  
Cognita iudicio constant, incognita casu.
33. Cum dubia in certis uersetur uita periclis,  
Pro lucro tibi pone diem, quicumque sequetur.



23. When in thy time of need friends fail to come,  
Blame not the gods, because the fault's at home.
24. Nurse what thou hast, that it may farther go;  
Deem thyself poor and thus miss being so.
25. Promise no more than thou canst sure redeem,  
Lest thus thou fail to be what thou wouldst seem.
26. Him who is smooth in speech, but false in heart,  
In his own coin repay, with art for art.
27. No trust in smooth-tongued men's professions lay;  
Sweet sounds the fowler's pipe to lure the prey.
28. If to thy sons thou canst not riches give,  
Then teach them trades that they may safely live.
29. Despise the dear and value the mean thing;  
So harm to none thy greed and lust shall bring.
30. Do not thyself what thou art wont to blame;  
When teachers slip themselves, 't is double shame.
31. Ask what is right and fair, no more beside;  
'T is vain to crave what may be well denied.
32. Change not known friends for those thou dost not know;  
Tried friends are sure, untried may not be so.
33. Since naught is sure but life's uncertainty,  
Prize well the day that now is given thee.

34. Uincere cum possis, interdum cede sodali,  
Obsequio quoniam dulces retinentur amici.
35. Ne dubita, cum magna petes, impendere parua:  
His etenim pressos contingit gloria raro.
36. Litem inferre caue, cum quo tibi gratia iuncta est:  
Ira odium generat, concordia nutrit amorem.
37. Seruorum culpa cum te dolor urguet in iram,  
Ipse tibi moderare, tuis ut parcere possis.
38. Quem superare potes, interdum uince ferendo;  
Maxima enimst hominum semper patientia uirtus.
39. Conserua potius, quae sunt iam parta, labore:  
Cum labor in damno est, crescit mortalis egestas.
40. Dapsilis interdum notis et largus amicis  
Cum fueris, dando semper tibi proximus esto.

## LIBER II

[Telluris si forte uelis cognoscere cultus,  
Uergilium legito; quodsi mage nosse laboras  
Herbarum uires, Macer haec tibi carmina dicit;  
Si Romana cupis et Punica noscere bella,  
Lucanum quaeres, qui Martis praelia dixit;  
Si quid amare libet uel discere amare legendo,  
Nasonem petito; sin autem cura tibi haec est,  
Ut sapien uiuas, audi quae discere possis,  
Per quae semotum uitiiis deducitur aeuum:  
Ergo ades et quae sit sapientia discas legendo.]

34. Though thou canst win, yield sometimes to thy friend;  
Thus yielding, strength to friendship thou wilt lend.
35. In quest of greater matters spare not small;  
On those by trifles ruled fame doth not call.
36. Strive not with him whom friendship bound to thee;  
Anger breeds hate, love thrives in harmony.
37. When thy slaves' failings make thine anger warm,  
Thine anger check, lest thou thy interests harm.
38. Tho' thou at once couldst win, a while await,  
Of human virtues patience is most great.
39. Save what thou'st earned: when thou must needs replace  
A loss incurred, dire want comes on apace.
40. To all thy friends give freely of thy pelf;  
But always duly mind the needs of self.

## BOOK II

[If it chances that thou desirest to learn farming, read Virgil. But if thou strivest rather to know the potency of herbs, Macer tells thee of this in his poems. If thou wishest to know about the Roman and Punic wars, enquire of Lucan who tells of the combats of Mars. If it takes thy fancy to love something or to learn by reading how to love, have recourse to Naso. But if thy chief desire is to live wisely, hear what thou canst learn about those things through which an old age free from vice is produced. So come and learn by reading what wisdom is.]

1. Si potes, ignotis etiam prodesse memento:  
Utilius regno est, meritis adquirere amicos.
2. An di sint caelumque regant, ne quaere doceri:  
Cum sis mortalis, quae sunt mortalia, cura.
3. Linque metum leti; nam stultum est tempore in omni,  
Dum mortem metuas, amittere gaudia uitae.
4. Iratus de re incerta contendere noli:  
Inpedit ira animum, ne possis cernere uerum.
5. Fac sumptum propere, cum res desiderat ipsa;  
Dandum etenim est aliquid, dum tempus postulat aut res.
6. Quod nimium est fugito, paruo gaudere memento:  
Tuta mage est puppis, modico quae flumine fertur.
7. Quod pudeat, socios prudens celare memento,  
Ne plures culpent id quod tibi displicet uni.
8. Nolo putes prauos homines peccata lucrari:  
Tempore si peccata latent, et tempore parent.
9. Corporis exigui uires contemnere noli:  
Consilio pollet, cui uim natura negauit.
10. Cui scieris non esse parem, pro tempore cede:  
Uictorem a uicto superari saepe uidemus.
11. Aduersum notum noli contendere uerbis:  
Lis uerbis minimis interdum maxima crescit.

1. Help if thou canst e'en those thou dost not know;  
More precious than a crown are friends won so.
2. Ask not if gods there be above the earth;  
For earth care thou who art of mortal birth.
3. Cease death to fear: none but a fool would choose  
Thro' fear of death the joys of life to lose.
4. Strive not in wrath o'er something wrapped in doubt;  
Wrath clouds the mind and puts good sense to rout.
5. Be quick at opportunity's demand;  
When time requires, the price must be at hand.
6. Excess avoid: let little satisfy;  
Safest the ships which smallest waters ply.
7. Hide well those acts of thine which cause thee shame,  
Lest some make worse thy plight by words of blame.
8. Think not that evil-doers surely win;  
Tho' hidden for a while, time shows their sin.
9. No small man's want of body's strength despise;  
Oft nature wit in place of strength supplies.
10. Yield to defeat awhile: for often we  
The victor beaten by the vanquished see.
11. Dispute not with thy friend, for often so  
From trifling words most serious discords grow.

12. Quid deus intendat, noli perquirere sorte:  
Quid statuatur de te, sine te deliberat ille.
13. Inuidiam nimio cultu uitare memento:  
Quae si non laedit, tamen hanc sufferre molestum est.
14. Forti animo ferto, cum sis damnatus inique:  
Nemo diu gaudet, qui iudice uincit iniquo.
15. Litis praeteritae noli maledicta referre:  
Post inimicitias iram meminisse malorum est.
16. Nec te conlaudes, nec te culpaueris ipse;  
Hoc faciunt stulti, quos gloria uexat inanis.
17. Utere quaesitis modice: cum sumptus abundat,  
Labitur exiguo, quod partum est tempore longo.
18. Insipiens esto, cum tempus postulat ipsum:  
Stultitiam simulare ioco, cum tempore laus est.
19. Luxuriam fugito, simul et uitare memento  
Crimen auaritiae; nam sunt contraria famae.
20. Nolito quaedam referenti credere saepe:  
Exigua est tribuenda fides, qui multa locuntur.
21. Quae potus peccas, ignoscere tu tibi noli;  
Nam crimen uini nullum est, sed culpa bibentis.
22. Consilium arcanum tacito committe sodali,  
Corporis auxilium medico committe fideli.



12. Ask not the lot what doth the god intend;  
Without thy help he will decide thy end.
13. Though envy roused by pomp doth not destroy,  
Forbear to stir it, for it doth annoy.
14. Bear with brave spirit every unjust wrong;  
The joy that's won unfairly lasts not long.
15. Revive not memories of former strife;  
'T is shame to bring old hatreds back to life.
16. Nor praise nor blame thyself. Fools thus have erred,  
When by vain hope of glory they were stirred.
17. Spend sparingly thy gains: with wasting vain  
Soon wealth is lost that took long time to gain.
18. To fit th' occasion laughable appear;  
'T is sometimes wisdom folly's mask to wear.
19. No spendthrift be, nor gain a miser's name;  
For either fault is sure to hurt thy fame.
20. Since those who much to thee are wont to tell  
Deserve but little faith, distrust them well.
21. Condone not what thou dost, o'ercome with wine;  
'T is not the liquor's fault: the blame is thine.
22. Thy secret thoughts to trusted friend declare;  
Thy body trust to wise physician's care.

23. Successus nolito indigni ferre moleste:  
Indulget Fortuna malis, ut uincere possit.
24. Prospice, qui ueniant casus, hos esse ferendos:  
Nam leuius laedit, quidquid praeuidimus ante.
25. Rebus in aduersis animum submittere noli:  
Spem retine; spes una hominem nec morte relinquit.
26. Rem, tibi quam noris aptam, dimittere noli:  
Fronte capillata, post est Occasio calua.
27. Quod sequitur spectata quodque imminet ante uideto:  
Illum imitare deum, partem qui spectat utramque.
28. Fortius ut ualeas, interdum parcius esto:  
Pauca uoluptati debentur, plura saluti.
29. Iudicium populi numquam contempseris unus:  
Ne nulli placeas, dum uis contempnere multos.
30. Sit tibi praecipue, quod primum est, cura salutis;  
Tempora nec culpes, cum sit tibi causa doloris.
31. Somnia ne cures; nam mens humana quod optat,  
Dum uigilat, uerum per somnum cernit id ipsum.

### LIBER III

[Hoc quicumque uolet carmen cognoscere lector,  
Cum praecepta ferat quae sunt gratissima uitae,  
Commoda multa feret; sin autem spreuerit illud,  
Non me scriptorem, sed se fastidiet ipse.]

1. Instrue praeceptis animum, ne discere cessa;  
Nam sine doctrina uita est quasi mortis imago.

23. Vex not thyself when bad men win, for so  
Doth fortune go about to lay them low.
24. For what the day may bring, thy mind prepare;  
So with more ease thou ills foreseen wilt bear.
25. Let not despair o'er ill thy courage take;  
Not e'en at death doth hope a man forsake.
26. Fail not when opportunity is fair;  
Behind Time's bald, his forehead's thick with hair.
27. Observe what's past and what may next ensue  
And Janus-like keep both ways under view.
28. For health's sake, when on pleasure bent be slow;  
Less unto pleasure than to health we owe.
29. Disdain not, arrogant, what most advise;  
Thou none canst please while thou dost all despise.
30. Guard well thy health with special care and skill;  
Thyself and not the seasons blame when ill.
31. Trust not in dreams, which make seem real and true  
Just what awake was most desired by you.

### BOOK III

[Whatever reader shall desire to know this poem, will gain many advantages, since it contains maxims which are very applicable to life. But if he reject it, he will hurt not me, the writer, but himself.]

1. Learn what both life and precepts teach, and so  
Life's fulness have which th' untaught never know.

2. Cum recte uiuas, ne cures uerba malorum:  
Arbitrii non est nostri, quid quisque loquatur.
3. Productus testis, saluo tamen ante pudore,  
Quantumcumque potes, celato crimen amici.
4. Sermones blandos blaesosque cauere memento:  
Simplicitas ueri forma est, laus ficta loquentis.
5. Segnitiam fugito, quae uitae ignauia fertur;  
Nam cum animus languet, consumit inertia corpus.
6. Interpone tuis interdum gaudia curis,  
Ut possis animo quemuis sufferre laborem.
7. Alterius dictum aut factum ne carpseris umquam,  
Exemplo simili ne te derideat alter.
8. Quod tibi sors dederit tabulis suprema notato,  
Augendo serua, ne sis quem fama loquatur.
9. Cum tibi diuitiae superant in fine senectae,  
Munificus facito uiuas, non parcus, amicis.
10. Utile consilium dominus ne despice serui:  
Si prodest, sensum nullius tempseris umquam.
11. Rebus et in censu si non est quod fuit ante,  
Fac uiuas contentus eo quod tempora praebent.
12. Uxorem fuge ne ducas sub nomine dotis,  
Nec retinere uelis, si coeperit esse molesta.

2. Upright, care not if bad men thee deride;  
'T is not within our power men's tongues to guide.
3. When as a witness thou must needs appear,  
Favor thy friend, but keep thy good name clear.
4. Deem soft cajoling speech an empty cheat;  
Truth naked is, but flatt'ry cloaks deceit.
5. Inaction's sure to waste one's life away;  
Sloth in the mind doth on the body prey.
6. With pleasure lighten now and then thy care,  
That so life's burdens thou mayst better bear.
7. Blame not what other men may say or do,  
Lest thee they jeer and for the same thing, too.
8. Thy heritage preserve and multiply,  
Lest thou the world's harsh censure justify.
9. If wealth abounds, when life draws near its end,  
Be not a stingy, but a generous friend.
10. Thy slave's wise counsel, do not proudly scorn  
But prize good sense e'en in the lowly born.
11. If from thy wealth and place thou dost descend.  
Still be content with what the seasons send.
12. For dowry take not to thyself a wife,  
Nor keep her with thee if she spoils thy life.

13. Multorum disce exemplo, quae facta sequaris,  
Quae fugias: uita est nobis aliena magistra.
14. Quod potes, id temptato, operis ne pondere pressus  
Subcumbat labor et frustra inceptata relinquo.
15. Quod factum scis non recte, nolito silere,  
Ne uideare malos uelle irritare tacendo.
16. Iudicis auxilium sub iniqua lite rogato:  
Ipsae etiam leges cupiunt ut iure rogentur.
17. Quod merito pateris, patienter ferre memento,  
Cumque reus tibi sis, ipsum te iudice damna.
18. Multa legas facito, tum lectis neglege multa;  
Nam miranda canunt, sed non credenda poetae.
19. Inter conuiuas fac sis sermone modestus,  
Ne dicare loquax, cum uis urbanus haberi.
20. Coniugis iratae noli tu uerba timere;  
Nam lacrimis struit insidias, cum femina plorat.
21. Utere quaesitis, sed ne uidearis abuti:  
Qui sua consumunt, cum dest, aliena secuntur.
22. Fac tibi proponas, mortem non esse timendam:  
Quae bona si non est, finis tamen illa malorum est.
23. Uxoris linguam, si frugi est, ferre memento;  
Namque malum est, non uelle pati nec posse tacere.



13. From others' actions seek to find the clue  
To what thou best mayst shun and best mayst do.
14. Begin what thou canst end, without avail  
Is that begun which speedily doth fail.
15. Speak out when wrong thou knowest hath been done,  
Lest thou thro' silence urge the culprit on.
16. When sued unjustly to the judge apply;  
The Law's intent is wrong to rectify.
17. To what thou dost deserve with calm submit;  
If thou hast guilt, chastise thyself for it.
18. Read much and much of it forget: 'T is well  
T' admire but not believe what poets tell.
19. Talk little at thy feasts lest men esteem  
Thee wordy, though thou fain wouldst witty seem.
20. Thy wroth wife's speech fear not. But have a care;  
A woman by her weeping can ensnare.
21. Use without waste whatever gains thou'st made;  
Who wastes his own, will others' rights invade.
22. Judge not that death's a thing to apprehend;  
If 't is not good, yet 't is of bad the end.
23. Bear thy wife's tongue when she hath useful been;  
Impatience and retort alike are sin.

24. Aequa diligito caros pietate parentes,  
Nec matrem offendas, dum uis bonus esse parenti.

## LIBER IV

[Semotam a curis si uis producere uitam  
Nec uitis haerere animi, quae moribus obsunt,  
Haec praecepta tibi saepe esse legenda memento.  
Inuenies, quo te possis mutare, magistrum.]

1. Despice diuitias, si uis animo esse beatus;  
Quas qui suspiciunt, mendicant semper auari.
2. Commoda naturae nullo tibi tempore derunt,  
Si contentus eo fueris quod postulat usus.
3. Cum sis incautus nec rem ratione gubernes,  
Noli Fortunam, quae non est, dicere caecam.
4. Dilige olens nardum, sed parce; defuge odorem,  
Quem nemo sanctus nec honestus captat habere.
5. Cum fueris locuples, corpus curare memento:  
Aeger diues habet nummos, se non habet ipsum.
6. Uerbera cum tuleris discens aliquando magistri,  
Fer patris imperium, cum uerbis exit in iram.
7. Res age quae prosunt; rursus uitare memento,  
In quis error inest nec spes est certa laboris.
8. Quod donare potes, gratis concede roganti;  
Nam recte fecisse bonis, in parte lucrorum est.

24. For both dear parents equal love e'er hold;  
Be not to father fond: to mother cold.

## BOOK IV

[If thou wishest to lead a life free from cares, cling not to faults which injure character. Remember that these precepts must be read often by thee. Thou wilt find in them a teacher through whom thou wilt be able to transform thyself.]

1. Wouldst happy be, scorn wealth. Those always seem  
To beg it greedily who wealth esteem.
2. Nature her favors never will deny  
If what thy needs require will satisfy.
3. When to poor judgment thou dost failure owe,  
Say not that Fortune's blind, for 't is not so.
4. Love nard, but use it sparingly; refrain  
From perfumes which all decent men disdain.
5. When rich, well for thy body care. One's wealth  
Is of but small avail if he lack health.
6. Since thou at school thy teacher's blows hast known,  
Thou'lt better bear thy father's angry tone.
7. What certain profit brings, let that be done;  
Uncertain risks and unsafe projects shun.
8. Give as thou canst to those who ask, for know  
Thou didst well gain when thou didst well bestow.

9. Quod tibi suspectum est, confestim discute quid sit:  
Namque solent, primo quae sunt neclecta, nocere.
10. Cum te detineat Ueneris damnosa libido,  
Indulgere gulae noli, quae uentris amica est.
11. Cum tibi praeponas animalia bruta timore,  
Unum hominem scito tibi praecipue esse timendum.
12. Cum tibi praeualidae fuerint in corpore uires,  
Fac sapias: sic tu poteris uir fortis haberi.
13. Auxilium a notis petito, si forte labores;  
Nec quisquam melior medicus quam fidus amicus.
14. Cum sis ipse nocens, moritur cur uictima pro te?  
Stultitia est morte alterius sperare salutem.
15. Cum tibi uel socium uel fidum quaeris amicum,  
Non tibi fortuna est hominis sed uita petenda.
16. Utere quaesitis opibus, fuge nomen auari:  
Quid tibi diuitias, si semper pauper abundes?
17. Si famam seruare cupis, dum uiuis, honestam,  
Fac fugias animo, quae sunt mala gaudia uitae.
18. Cum sapias animo, noli ridere senectam;  
Nam quocumque seni puerilis sensus inhaeret.
19. Disce aliquid; nam cum subito Fortuna recessit,  
Ars remanet uitamque hominis non deserit umquam.

9. Seek quick the truth when once thou dost suspect,  
Dangers grow large when nourished by neglect.
10. When hurtful lust hath hold of thee, refrain  
From giving to thy appetites free rein.
11. Thy fear of beasts declares their rule o'er thee;  
Know thou that man alone should dreaded be.
12. Not strength alone, but wisdom, too, possess;  
Thus thou canst gain a name for manliness.
13. When sick, from friends seek thou relief. Be sure  
Thy trusted friend can give thee certain cure.
14. Why for thy guilt should guiltless victims bleed?  
'T is vain to think their blood doth cleanse thy deed.
15. Whene'er a trusty friend thou dost desire,  
Not of his wealth but of his life enquire.
16. Employ thy gains; the name of miser flee;  
What good is wealth when want still lives with thee?
17. If through thy life thou wouldst a good name save,  
Be not to pleasure base an abject slave.
18. Flout not old age while thou dost sense possess;  
Age ever brings to all some childishness.
19. Learn thou a trade lest wealth may fly away;  
For skill, once gained, shall ever with thee stay.

20. Prospicito tecum tacitus quid quisque loquatur:  
Sermo hominum mores et celat et indicat idem.
21. Exerce studio quamuis perceperis artem:  
Ut cura ingenium, sic et manus adiuuat usum.
22. Multum uenturi ne cures tempora fati:  
Non metuit mortem qui scit contempnere uitam.
23. Disce sed a doctis, indoctos ipse doceto:  
Propaganda etenim est rerum doctrina bonarum.
24. Hoc adhibe uitae quo possis uiuere sanus:  
Morbi causa mali est, nimia est quaecumque uoluptas.
25. Laudaris quodcumque palam, quodcumque probaris,  
Hoc uide ne rursus leuitatis crimine damnes.
26. Tranquillis rebus semper diuersa timeto,  
Rursus in aduersis melius sperare memento.
27. Discere ne cessa; cura sapientia crescit,  
Rara datur longo prudentia temporis usu.
28. Parce laudato; nam quem tu saepe probaris,  
Una dies, qualis fuerit, ostendit, amicus.
29. Non pudeat, quae nescieris, te uelle doceri:  
Scire aliquid laus est, culpa est nil discere uelle.
30. Cum Uenere et Baccho lis est et iuncta uoluptas:  
Quod lautum est, animo complectere, sed fuge lites.



20. What's said to thee with caution ponder well;  
Men's practice words may hide as well as tell.
21. Practice with zeal the skill thou'st learned. Thou'lt find,  
Use trains the hand as study does the mind.
22. Let not death's sure approach thee terrify;  
Who life despises doth not fear to die.
23. Learn only of the learned: teach th' untaught;  
Knowledge of truth must to all men be brought.
24. If thou wouldst sanely live, take this to heart,—  
Avoid excesses; thence diseases start.
25. Condemn not thou with inconsistency  
What once thou hast approved full publicly.
26. When fortune smiles, forget not she may frown;  
When fortune frowns, be not too much cast down.
27. Cease not to learn; wisdom's through study gained;  
By lapse of years alone 't is ne'er attained.
28. Praise not o'ermuch: one day's enough to show  
If he, oft claimed thy friend, is really so.
29. To wish for knowledge is no cause for shame;  
To have it merits praise; to scorn it, blame.
30. With love and wine pleasure and strife are knit;  
Cleave to the good in these; the bad omit.

31. Demissos animo et tacitos uitare memento:  
Quod flumen placidum est, forsán latet altius unda.
32. Dum fortuna tibist rerum discrimine praua,  
Alterius specta cui sit discrimine peior.
33. Quod potes, id tempta; nam litus carpere remis  
Utilius multo est quam uelum tendere in altum.
34. Contra hominem iustum prauè contendere noli;  
Semper enim deus iniustas ulciscitur iras.
35. Ereptis opibus noli maerere dolendo,  
Sed gaude potius, tibi si contingat habere.
36. Est iactura grauis quaesitum amittere damno;  
Sed tibi cum ualeat corpus, superesse putato.
37. Tempora longa tibi noli promittere uitae:  
Quocumque incedis, sequitur mors corporis umbra.
38. Ture deum placa, uitulum sine crescat aratro:  
Ne credas gaudere deum, cum caede litatur.
39. Cede locum laesus Fortunae, cede potenti:  
Laedere quo potuit, poterit prodesse aliquando.
40. Cum quid peccaris, castiga te ipse subinde:  
Uulnera dum sanas, dolor est medicina doloris.
41. Damnaris numquam post longum tempus amicum:  
Mutauit mores, sed pignora prima memento.

31. Who silent is and melancholy, shun;  
Perchance the quiet rivers too deep run.
32. When fortune's favor seems not thine, take thought  
Of him to whom Dame Fortune less hath brought.
33. Begin what thou to finish canst not fail;  
Safer near shore than on the deep to sail.
34. Break not against the righteous man the laws,  
For God's th' avenger of the righteous cause.
35. When wealth takes wings thou shouldst not then repine;  
Rejoice the more that anything is thine.
36. Sad is the fate to lose one's hard-won gains,  
But much is saved if only health remains.
37. Count not on life: howe'er thy way may wend,  
Death shadowlike will everywhere attend.
38. The calf's the plow's; incense doth heaven please;  
Think not the god by slaughter to appease.
39. If thou art beaten, cease then to resist;  
Who could o'ercome will able be t' assist.
40. When thou hast sinned, at once thyself chastise;  
To cure the hurt thy grief will well suffice.
41. To thy old friend never unfriendly prove;  
Though he be changed, forget not former love.

42. Gravior officiis, quo sis mage carior, esto,  
Ne nomen subeas quod dicunt officiperdi.
43. Suspectus caue sis, ne sis miser omnibus horis;  
Nam timidis et suspectis aptissima mors est.
44. Cum seruos fueris proprios mercatus in usus  
Et famulos dicas, homines tamen esse memento.
45. Quam primum rapienda tibi est occasio prona,  
Ne rursus quaeras iam, quae neglexeris ante.
46. Morte repentina noli gaudere malorum:  
Felices obeunt, quorum sine crimine uita est.
47. Cum coniux tibi sit, ne res et fama laboret,  
Uitandum ducas inimicum nomen amici.
48. Cum tibi contigerit studio cognoscere multa,  
Fac discas, multa a uita te scire doceri.
49. Miraris uersus nudis me scribere uerbis?  
Hoc breuitas fecit, sensu uno iungere binos.

42. To show thy gratitude take ev'ry care,  
Lest on thee fall the shame that ingrates bear.
43. A life of naught but dread can not be sweet;  
For those by terror held, death is most meet.
44. When servants thou hast bought, remember then,  
Altho' thou term'st them slaves, they still are men.
45. Secure thy chance when first it be at hand,  
Lest that once scorned thou dost in vain demand.
46. In bad men's sudden death take not delight,  
Those only die well who have lived aright.
47. Having a wife, be watchful of thy friend,  
Lest false to thee, thy fame and goods he spend.
48. When thou at last from study hast much lore,  
Recall there's much to learn from life's vast store.
49. Dost ask why I this form of verses choose?  
Know brevity did bid me couplets use.













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